The OIL WEEKLY

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FOR OIL AND GAS PRODUCTION, REFINING AND PIPE LINE DIVISIONS

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**SEE PAGES 12 and 13**

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Associate Editor

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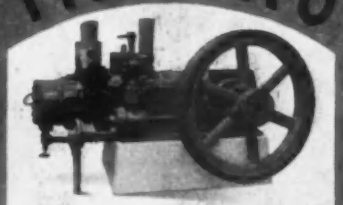

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VOLUME 74, No. 2

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# THE OIL WEEKLY

FOR OIL AND GAS PRODUCTION AND
PIPE LINE DIVISIONS

ENGINEERING • NEWS • STATISTICS

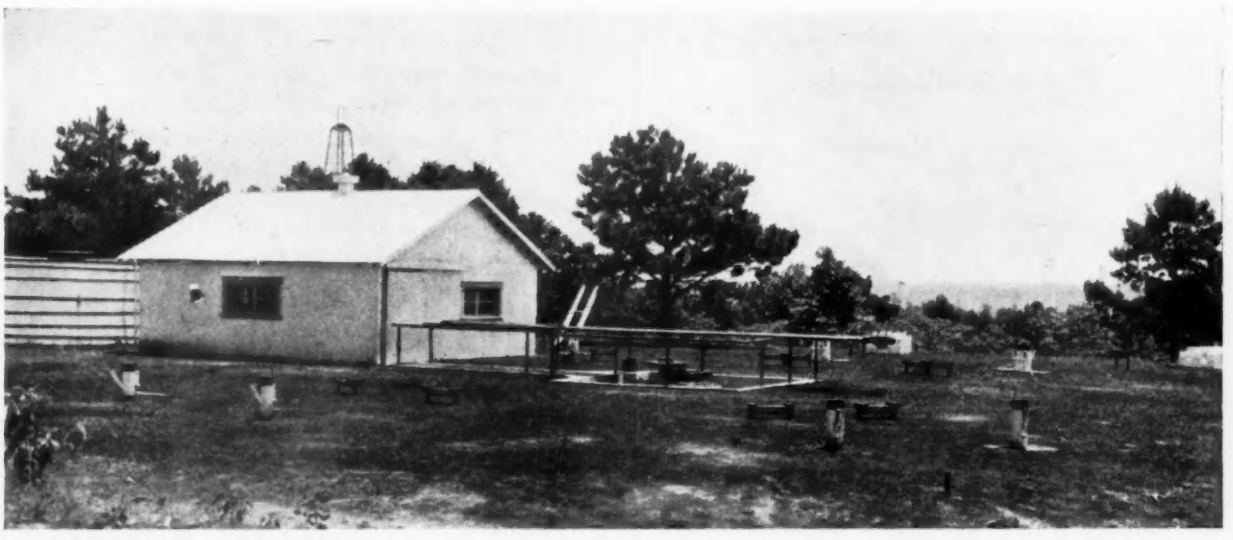
# The Changing Panorama

## Read and Wire

Hot oil runners are more afraid of the effect of the new revenue bill with its tax on crude oil and gasoline than they are of anything else, we are told, and that is not strange. If the proper regulations are prepared the hot oil gentlemen will be forced to make returns which can be readily checked. If they fail to make the returns it is a $1000 fine and six months in jail for each offense, and if they do make returns and give false information, Uncle Sam has free board and lodging ready for them at Leavenworth, Atlanta or other well known resorts for federal tax falsifiers.

We have read carefully the discussion of the possibilities of sections 604 and 605 of the 1934 Internal Revenue Act by George Hill, as shown on page 9 of this issue. It appears to us that these two provisions, if carried out with proper regulations, would be of great value in coping with hot oil in East Texas. The Department of the Interior would have full access to the records, as would the Texas Railroad Commission. The information which could be required legitimately under proper regulations would give the Department of the Interior all of the data it could use in its work.

The oil industry ought to get behind the move of the Texas Petroleum Council and urge the Commissioner of Internal Revenue, Hon. Guy T. Helvering at Washington, to give every consideration to the regulations which will be presented to him next Monday by John Kilgore, general counsel of the council, and R. D. Park-



***Eventually East Texas will go on the pump. Against that day many operators are making installations like this. See page 22.***

er, former chief adminstrative officer of the Texas Railroad Commission who was relieved of his duties in East Texas by the Texas Railroad Commission last week. Parker is a competent man, a conscientious man, whose loss is certainly no gain to the Texas Railroad Commission, and Kilgore is an attorney who stands high in his profession in Texas.

Read the dicussion of Sections 604 and 605 of the Internal Revenue Act of 1934, on page 9, and wire Mr. Halvering your endorsement.

## Postscript

Somebody suggested that we write another note to the Texas Railroad Commissioners and ask them if they got our last week's letter. They got it, all right! And they read it. But there is a difference between reading and reasoning.

We cannot see that either Terrell or Thompson has covered himself with glory. As for Smith, he says he did not know about it which gives rise to the suspicion on our part that either he has not been atending to the commission's business, or the other boys played a bad, bad trick on him.

There are some who are unkind enough to say that the main job of a Texas Railroad Commissioner is to be sure that he keeps the job. For such naughty minded persons we ask—"And how do you ever get that idea?"

We have received so many answers to that question, and they are so convincing to us that we will not even bother to repeat them—most Oil Weekly readers already know most of the answers!

There would be stark tragedy in the whole thing if it were not that so many people have been expecting it and if many were not convinced that not much help is to be expected either of the commission or Jimmy Alred's department, and if there were not some humor in the thing. For instance, when the commission sent Parker up to East Texas, with a grand eloquent message of high praise, Commissioner Thompson thoughtfully had the original copy of the message photostated with all of the official signatures on it and to make it genuine he wrote "good luck" on it and sent it to Parker! Good luck!

It may be that the commission will really try to do something about hot oil in East Texas. We are not betting any money on any results, though.

We will make a prediction, however. The federal people are about ready to do something in East Texas. And they probably will get results. Our prediction is that the railroad commission will not be ultra modest in claiming any credit which may arise for cutting down hot oil!

We hope that something is done. If something is not we will have a price cut on East Texas crude and that shortly. In fact, we would not be surprised if such a cut were made before the next issue of The Oil Weekly goes to press.

### The Oil Man's Calendar

June
25-29 *American Society of Mechanical Engineers, Denver, Colorado.*

August
24-27 *Drake Well Memorial Celebration, Titusville, Pennsylvania.*

September
10-14 *American Chemical Society, Cleveland, Ohio.*
19-21 *National Petroleum Association, Atlantic City, New Jersey.*

October
12-13 *A. I. M. E. Petroleum Division, Tulsa, Oklahoma.*
29 *American Gas Association, Atlantic City, New Jersey.*

November
12-15 *American Petroleum Institute, Dallas, Texas.*
*American Association of Petroleum Geologists (Pacific Section), Los Angeles.*

## Plain Stealing

Reports coming to The Oil Weekly indicate that in East Texas the situation is rapidly developing from the old fashioned over-production basis into a plain outright thievery era. Numerous incidents of just plain stealing have come to The Oil Weekly.

The outstanding, or most astounding, incident was reported something like this:

It was discovered that, through collusion with a lease man on a large company lease, oil was flowed from a major company well into another major company's pipe line, the line being tapped for that purpose. At a point near a refinery the line was tapped again and the oil taken out to the refinery.

Naturally, neither the major producer owning the well nor the pipe line company knew of the connections until in some manner the well connection was discovered. The lease man admitted the theft, it is reported, saying that the royalty owner was getting paid so it was all right.

When the pipe line company received the report it called a well cementing company and immediately started pumping cement into the tap line leading to the refinery. The line was followed up, the story goes, and led into the refinery yard. The connection had just been cut but a gas separator built rather low into the ground was found still dripping oil and the paint was fresh on the cut connection.

Employes in the refinery, according to the story, were not sure as to for whom they were working, saying that the refinery had been sold the week before and that it had been sold once during the week and

(*Continued on page 46*)

# Commission Shake-Up Seen As Weakening Texas Enforcement

WITH the Texas Railroad Commission claiming the rather dubious honor of having fired its administrative chief, R. D. Parker, and with Parker claiming that he beat the commission to the gun by resigning, the law enforcement situation on proration insofar as East Texas was concerned appeared to be in a chaotic state at the close of the week. The action of the commission did not come as a complete surprise. It had been anticipated that such an action would be taken after the primaries as it was apparent to many that the commission's original stand in placing Parker in charge and in advising him and the oil industry at large that he would be unhampered by politics was beginning to irk some of the commission.

As the week closed Capt. E. N. Stanley, formerly in charge of the railroad commission's efforts in East Texas, had been appointed to take Mr. Parker's place with "administration authority" only. Stanley is reputed to be a man of thorough integrity but many oil people expressed the fear during the week that if he were forced to work with political appointees named by the commission he could not hope for successful results in stopping the flood of hot oil in East Texas.

The week closed with fear and trembling in the ranks of those commission employees appointed by Parker in East Texas without consideration of the political wishes of the commission.

The text of the order firing Parker, which was signed by Commissioners Terrell and Thompson, follows:

"Mr. R. D. Parker with a free hand, unhampered by anyone, has had complete control of enforcing the oil laws in East Texas for the past two and one half months.

"The production of excess oil has steadily increased to an estimated amount of around 100,000 barrels per day since he has had the sole direction of the enforcement of the law and our orders pertaining to that field.

"This is a condition which the commission cannot tolerate.

"It is therefore ordered by the Texas Railroad Commission that the services of R. D. Parker are hereby terminated, effective this date." [Dated June 19.]

R. D. PARKER

Chairman Lon A. Smith, who was out of the city when the order was issued, declined to defend the change, or to approve it.

"I was not consulted," he said, "and I have not discussed it with the other commissioners. However, I have been for Parker all the time. I think he should be given a chance. However, if hot oil has increased, as they say, then something must be wrong."

Parker a few hours before the announcement of his dismissal was made public, issued a statement in East Texas resigning and in his statement said that he was resigning because in effect his hands were being tied by the action of the railroad commission in appointing political favorites to positions on his force in East Texas. Parker told THE OIL WEEKLY later in the week that he was advised that the commission was planning to resume its "old methods" and that he was slated to go, that he had a tip that his dismissal was imminent and that he made his resignation before he was advised by the commission that his services were not wanted.

### Parker Says Was Hampered

Parker said that his work had been hampered by the commission, that despite the fact that the commission, with a fanfare of praise for his ability and integrity when he was assigned to East Texas, in which fanfare the commission had said that he would be given the right to hire and fire, had employed a successor to W. F. Knode, chief engineer, without consulting Parker. He said that employees discharged by him because he did not consider them competent were reemployed by the commission elsewhere. There was a great deal of speculation as the week closed as to what the important practical results of the situation in East Texas would be.

The question of tender hearings was an important one and word from East Texas field quoted Capt. Stanley as saying that in the future no one would be allowed to question witnesses at tender

E. N. STANLEY

## Some Talk of East Texas Being Shut In

**Tyler.—With "hot" oil production in the East Texas field increasing rapidly and conditions in general getting out of control, reports are to be heard that the field again will be shut in entirely for a period of two weeks. It is known that several sources have suggested the field be shut in until enforcement agencies may be reorganized, but it is not known whether state authorities will take any action. Many operators in the field are understood to be favoring this action so as to stop the rapid decline in bottom-hole pressure that occurred during the past month.**

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If this policy is to be followed by the commission it will mean that the representatives of the Texas Petroleum Council, an organization of oil men formed to help enforce petroleum laws, will not be allowed to participate in the hearings. In the past an attorney for the council has asked questions and materially aided the commission.

At Austin, prior to a meeting of the Texas Petroleum Council on Thursday, Commissioner Thompson, when asked the direct question as to whether or not the open hearings on tenders would continue, said they would but that "bully-ragging" and "fishing expeditions" on the part of questioners would not be permitted. He said that it would be assumed that the tender was made in good faith on legal oil.

In answer to the direct question as to whether or not violators in East Texas were known to the commission, Dennis Parker, the former chief administrator, told THE OIL WEEKLY that he could take the interviewer to the railroad commission offices and show him a list of the great majority of known violators. He said that these violators are well known but that the difference between knowing a thing and proving it is something substantial.

"Fishing expeditions" have been directed, it was indicated, at those concerns whom the commission had reason to believe were violators and were used to bring out evidence which might support the action of the commission.

### Thompson Blames Council

After issuing the formal statement in connection with the discharge of Parker, Commissioner Thompson in a later statement attempted to lay the blame for the dismissal on the Texas Petroleum Council, saying the council had said that there was 100,000 barrels of hot oil being run in East Texas and that something ought to be done about it, so he fired Parker.

However, when Parker attended the meeting of the Texas Petroleum Council in Houston on Thursday his entry into the room was a signal for a number of those present to arise and shake his hand and he was named at the request of those present on one of the most important committees that the council has yet appointed. It was quite obvious to anyone attending the meeting that the Texas Petroleum Council considered him thoroughly competent and that his dismissal from the services was looked upon with regret by the council. The council is not a political organization in any sense of the word and no official action was taken to refute the statement of the commission, unless the appointment of Mr. Parker could be so construed.

In answer to the question as to what constituted the principal obstacles to enforcing the proration laws in East Texas, outside of political interference on the part of the commission, Mr. Parker told THE OIL WEEKLY that failure on the part of the Attorney General's department to cooperate on civil suits was one of the most important obstacles.

"Indifference on the part of local authorities also constitutes a substantial obstacle in the prosecution of felony cases," he said. "The dockets in East Texas courts are terribly crowded on various and sundry other matters," he said, "and quite naturally the officers in that territory are inclined to enforce those laws for which there is the greatest popular demand. There should be more sentiment in favor of the prosecution of these felony cases," he said.

Incidentally, Parker, at the Texas Petroleum Council meeting stated that the Texas Petroleum Council had rendered him invaluable assistance.

The feeling in Austin is that the principal reason for firing Parker appears to be a decided lack of harmony between the commissioners and himself. Otherwise, a transfer to other work would have been sufficient.

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His dismissal had been anticipated since the first of June, and had been predicted for June 15. After this day had passed, observers believed that he would be retained on the payroll until after the July election, at least.

Commissioner Terrell, who was ill in Houston at the time Parker was given wide powers, never consented to this plan, and consistently objected to it. The fact

*(Continued on page 49)*

# Internal Revenue Bill Now Is Basis for Federal Oil Control

**John Kilgore, general counsel for the Texas Petroleum Council and R. D. Parker, recently administrative chief of the Texas Railroad Commission left Houston Saturday, June 24, to confer with the Commissioner of Internal Revenue in Washington with reference to regulations for use in collecting the one mill federal tax on crude oil and gasoline.**

*"WE'RE not afraid of the Texas Railroad Commission. We're not afraid of the Attorney General's department. What we are afraid of is the Federal Government's Internal Revenue Department when it starts collecting that one mill federal tax!"*

Thus, was an alleged "violator" in East Texas quoted before the meeting of the board of the Texas Petroleum Council in Houston Thursday, and members agreed with the sentiment expressed to the extent that a committee was appointed to confer with Guy T. Helvering, commissioner of internal revenue at Washington, with the idea that that arm of the federal government contribute its part in the war for a stabilized oil industry in East Texas, as well as insure proper collection of its revenues.

In a speech at the meeting George H. Hill, president of Houston Oil Company, declared that Sections 604 and 605 of the 1934 Internal Revenue Bill, imposing a one mill tax per barrel on oil produced and a similar tax on refined products, could be the basis of internal revenue department regulations that would not only insure revenue, but which would put a crimp in the activities of flagrant violators. Following his talk a general discussion was held and a committee consisting of John Kilgore, general counsel for the Texas Petroleum Council, Bruce Clarity, R. D. Parker, C. A. Warner and Hines Baker was appointed to draft suggestions for regulations, and take the matter up with proper authorities.

Said Mr. Hill:

"A sub-committee of the Committee on Interstate and Foreign Commerce of the Congress of the United States has begun its investigation of the question of the necessity for and the legality of the proposed enactment of a federal law empowering the Secretary of the Interior of the United States to:

"(a) regulate production of oil within the several states of the United States and within the pools located therein and among the leases and wells embraced within the said pools; and

"(b) to fix quotas for production, etc., as set forth in the provisions of the Disney-Thomas Bill, which failed of enactment in the last session of congress.

"The proponents and opponents of this legislation advanced many arguments and adduced much evidence before the Congressional Committee, with the result that such bill was not reported out by the committee.

"Opponents of the proposed federal act contended:

"(1) that the federal government was lacking in constitutional power to regulate the production of oil within a state, inasmuch as the production of oil did not constitute commerce therein; and

"(2) that, under our system of government, such matters as the regulation of the production of our natural resources and the conservation thereof was wisely reserved to the states; and

"(3) that the imperfection in the administration of any law—whether state of federal and whether administered by state or federal agencies—would always be, to a limited degree, apparent, and that this was attributable to human errantry, irrespective of whether or not the human beings charged with the duty of administration were clothed with federal or state authority.

"Other arguments were advanced against the enactment of this legislation and various arguments were advanced in favor of this legislation, but one of the principal arguments advanced in favor of this legislation was that the federal authority would be more capably and efficiently administered, and with a consequent elimination of excess or hot oil production and excess or hot oil refined products.

"It would seem to be appropriate for the oil industry to consider at this juncture:

"(1st) whether or not adequate laws —both state and federal and having the merit of constitutionality — are not already on the statute books, which, if enforced, will accomplish all reasonable objectives that are in the public interest; and

"(2nd) whether or not the insistent clamor for more and different laws has not retarded or hampered the administration of existing laws.

"To indicate the timeliness of such a review and consideration, only two federal laws of recent enactment will be considered, viz:

"(a) Section 604 of the Revenue Act of 1934, imposing a producer's tax on crude petroleum; and

"(b) Section 605 of the Revenue Act of 1934, imposing a tax on the refining of crude petroleum.

"It must be remembered that the particular and especial problems of the oil industry and of the railroad commission of Texas and of the Petroleum Administrative Board and of the Secretary of the Interior directly result from:

"(1) the alleged continuous illegal overproduction of certain producers in the East Texas field who are supposed to be well-known and already identified; and

"(2) the refining of illegal and excess oil in the East Texas oil field by certain refineries who are supposed to be well-known and already identified and whose products are being sold in intrastate and interstate commerce to the detriment of the public interest and of the oil industry.

"It will be conceded by nearly all proponents of the Disney-Thomas bill that the most important ills of the industry will have been relieved when hot oil production in East Texas shall have ceased and the manufactured products therefrom eliminated from the competitive gasoline markets.

"Therefore, what we may fairly consider at this time is the efficacy and efficiency of the administration of a federal law, to be federally administered by one of the most competent of the federal departments, in disposing of known law violators already identified in a localized area.

"The question is so put, not in a

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His dismissal had been anticipated since the first of June, and had been predicted for June 15. After this day had passed, observers believed that he would be retained on the payroll until after the July election, at least.

Commissioner Terrell, who was ill in Houston at the time Parker was given wide powers, never consented to this plan, and consistently objected to it. The fact

*(Continued on page 49)*

# Internal Revenue Bill Now Is Basis for Federal Oil Control

**John Kilgore, general counsel for the Texas Petroleum Council and R. D. Parker, recently administrative chief of the Texas Railroad Commission left Houston Saturday, June 24, to confer with the Commissioner of Internal Revenue in Washington with reference to regulations for use in collecting the one mill federal tax on crude oil and gasoline.**

*"WE'RE not afraid of the Texas Railroad Commission. We're not afraid of the Attorney General's department. What we are afraid of is the Federal Government's Internal Revenue Department when it starts collecting that one mill federal tax!"*

Thus, was an alleged "violator" in East Texas quoted before the meeting of the board of the Texas Petroleum Council in Houston Thursday, and members agreed with the sentiment expressed to the extent that a committee was appointed to confer with Guy T. Helvering, commissioner of internal revenue at Washington, with the idea that that arm of the federal government contribute its part in the war for a stabilized oil industry in East Texas, as well as insure proper collection of its revenues.

In a speech at the meeting George H. Hill, president of Houston Oil Company, declared that Sections 604 and 605 of the 1934 Internal Revenue Bill, imposing a one mill tax per barrel on oil produced and a similar tax on refined products, could be the basis of internal revenue department regulations that would not only insure revenue, but which would put a crimp in the activities of flagrant violators. Following his talk a general discussion was held and a committee consisting of John Kilgore, general counsel for the Texas Petroleum Council, Bruce Clarity, R. D. Parker, C. A. Warner and Hines Baker was appointed to draft suggestions for regulations, and take the matter up with proper authorities.

Said Mr. Hill:

"A sub-committee of the Committee on Interstate and Foreign Commerce of the Congress of the United States has begun its investigation of the question of the necessity for and the legality of the proposed enactment of a federal law empowering the Secretary of the Interior of the United States to:

"(a) regulate production of oil within the several states of the United States and within the pools located therein and among the leases and wells embraced within the said pools; and

"(b) to fix quotas for production, etc., as set forth in the provisions of the Disney-Thomas Bill, which failed of enactment in the last session of congress.

"The proponents and opponents of this legislation advanced many arguments and adduced much evidence before the Congressional Committee, with the result that such bill was not reported out by the committee.

"Opponents of the proposed federal act contended:

"(1) that the federal government was lacking in constitutional power to regulate the production of oil within a state, inasmuch as the production of oil did not constitute commerce therein; and

"(2) that, under our system of government, such matters as the regulation of the production of our natural resources and the conservation thereof was wisely reserved to the states; and

"(3) that the imperfection in the administration of any law—whether state of federal and whether administered by state or federal agencies—would always be, to a limited degree, apparent, and that this was attributable to human errantry, irrespective of whether or not the human beings charged with the duty of administration were clothed with federal or state authority.

"Other arguments were advanced against the enactment of this legislation and various arguments were advanced in favor of this legislation, but one of the principal arguments advanced in favor of this legislation was that the federal authority would be more capably and efficiently administered, and with a consequent elimination of excess or hot oil production and excess or hot oil refined products.

"It would seem to be appropriate for the oil industry to consider at this juncture:

"(1st) whether or not adequate laws —both state and federal and having the merit of constitutionality — are not already on the statute books, which, if enforced, will accomplish all reasonable objectives that are in the public interest; and

"(2nd) whether or not the insistent clamor for more and different laws has not retarded or hampered the administration of existing laws.

"To indicate the timeliness of such a review and consideration, only two federal laws of recent enactment will be considered, viz:

"(a) Section 604 of the Revenue Act of 1934, imposing a producer's tax on crude petroleum; and

"(b) Section 605 of the Revenue Act of 1934, imposing a tax on the refining of crude petroleum.

"It must be remembered that the particular and especial problems of the oil industry and of the railroad commission of Texas and of the Petroleum Administrative Board and of the Secretary of the Interior directly result from:

"(1) the alleged continuous illegal overproduction of certain producers in the East Texas field who are supposed to be well-known and already identified; and

"(2) the refining of illegal and excess oil in the East Texas oil field by certain refineries who are supposed to be well-known and already identified and whose products are being sold in intrastate and interstate commerce to the detriment of the public interest and of the oil industry.

"It will be conceded by nearly all proponents of the Disney-Thomas bill that the most important ills of the industry will have been relieved when hot oil production in East Texas shall have ceased and the manufactured products therefrom eliminated from the competitive gasoline markets.

"Therefore, what we may fairly consider at this time is the efficacy and efficiency of the administration of a federal law, to be federally administered by one of the most competent of the federal departments, in disposing of known law violators already identified in a localized area.

"The question is so put, not in a

spirit of criticism of a great federal department that is already overburdened with innumerable duties and responsibilities, but in order to illustrate that the mere written mandate of the law is an entirely different thing from the administration and the enforcement of such law; and that the Treasury Department, already manned with a large and trained personnel of investigators and supplied with adequate federal revenues for the discharge of its duties, is unprepared for the task at the outset and is in great need of the aid and assistance of the industry, and to point out the manner and method by which the problem of enforcement can be greatly facilitated under these existing laws, which are of unquestioned constitutionality, instead of having resort to proposed federal laws that are, first, of doubtful constitutionality, and second, assuredly in conflict with state laws and state authority.

"Section 604 of the Revenue Act of 1934:

"(1) imposes a tax of 1/10th of one cent per barrel on crude petroleum, to be paid by the producer;

"(2) the purchaser of such crude petroleum is required to collect the tax;

"(3) every purchaser and every producer liable for any tax are required to make monthly returns, under oath, and pay such taxes to the collector for the district;

"(4) such returns shall contain such information and be made at such times and in such manner as the Commissioner of Internal Revenue, with the approval of the secretary, may by regulation prescribe;

"(5) every purchaser is required to deduct and withhold the tax;

"(6) the commissioner, with the approval of the secretary, may require such bond or other security as he deems necessary for the protection of the revenue and to assure compliance with this section and other provisions of the law, and may prescribe the form and conditions of such bond and provide for the approval of the sureties and fix the amount and the penalty thereof and authorize the cancellation of such;

"(7) this section prescribes penalty of $1.000.00 fine or imprisonment for six months, or both;

"(8) it requires every working interest partner (meaning the person having the management and operation of a well) to keep records and make such reports with respect to production and disposition of crude petroleum at such time and in such manner as the regulations shall prescribe;

"(9) the law further provides that the records, reports and returns required under any provision of the law shall be open at all reasonable hours for inspection by any authorized representative of the commissioner or any agency of the United States (which would include the Secretary of the Interior and the Petroleum Administrative Board, etc.) or any representative of a State having advisory or regulatory powers over the production of crude petroleum (which would include any representative of the Railroad Commission of Texas).

"It is therefore perfectly obvious that the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, may, by the mere promulgation of treasury regulations, require the keeping of records and the making of reports and returns, under oath, by every operator in East Texas, showing:

"(a) a map, drawn to a specified scale, of each lease being owned and/or operated by each producer in the East Texas field; and

"(b) the number, location and designation of each and every well thereon; and

"(c) the number, location, description and capacity of all lease tanks thereon and of the amount of oil therein at any specified date and hour, or dates and hours; and

"(d) the number, location, description and capacity of the owned and/or leased and/or used storage tanks, together with a statement of the amount of oil, basic sediment, water or other foreign matter therein on any date and hour, or dates and hours; and

"(e) the diameter, length and location of all flow lines, pipe line connections, loading rack connections and other outlets from each and every well, tank and lease; and the hours during each day during which each of said wells were produced and the rate of production and the quantity of oil daily produced and the tank or tanks into which said oil was deposited from day to day; and

"(f) the measurement of each and all of said tanks with respect to quantity of content from day to day; and

"(g) the quantity of oil produced, wasted or lost through leakage or otherwise from each well, line or tank from day to day, and the disposition thereof by and through reclamation plants or otherwise; and

"(h) the disposition of all crude petroleum produced, specifying the place, time and manner of delivery and quantity of crude petroleum delivered and the name of the purchaser and the agent of the purchaser receiving the same, and all other data deemed important to a truthful, current and complete daily record of each and every aspect of each producer's daily production, storage and disposition of crude petroleum.

"Such treasury regulation could provide for the keeping and making of such records and returns, under oath, in each and all instances where, in the opinion and in the discretion of the commissioner, the tax was deemed in jeopardy, or in each and every instance in which the commissioner deemed it necessary for the protection of the government's revenue and to assure compliance with the law. Furthermore, the commissioner could fix the amount, terms and conditions of a bond to be required of each and every such producer, together with the sureties thereon and the penalties thereon, and all of this under precedents established in connection with federal decisions handed down in the past in relation to Federal Revenue Acts and Treasury Regulations promulgated thereunder.

"If the foregoing fairly reflects the context of the law, and the powers, opportunities and duties enjoyed by and imposed upon the Commissioner of Internal Revenue, does the question not at once arise:

"Why have no treasury regulations, along the foregoing or parallel lines, been prepared and promulgated during the long period of time intervening between the enactment of Section 604 of the Revenue Act of 1934 and its effective date; and why have not a trained and specialized group, adequate in numbers, of treasury investigators and inspectors been detailed to the East Texas field and actually put to work upon the properties and in the offices of the known and identified hot oil producers, for the purpose of making immediately and vigorously effective the provisions of such law, considering all of the beneficial results in other directions that such a vigorous enforcement program would immediately produce?

"It would effectively stop hot oil production because:

"(a) the federala gents would be acting under a valid Revenue Act; and

"(b) under valid treasury regulations; and

"(c) any false record or statement or return could be made the basis of separate and continuous federal prosecutions; and

"(d) truthful and correct records and returns, while relieving from prosecution under this act, would constitute prima facie sworn testimony and admission by such operator of the violation of the petroleum code and of state civil and criminal statutes and orders of the Railroad Commission of Texas in every instance

(*Continued on page 36*)

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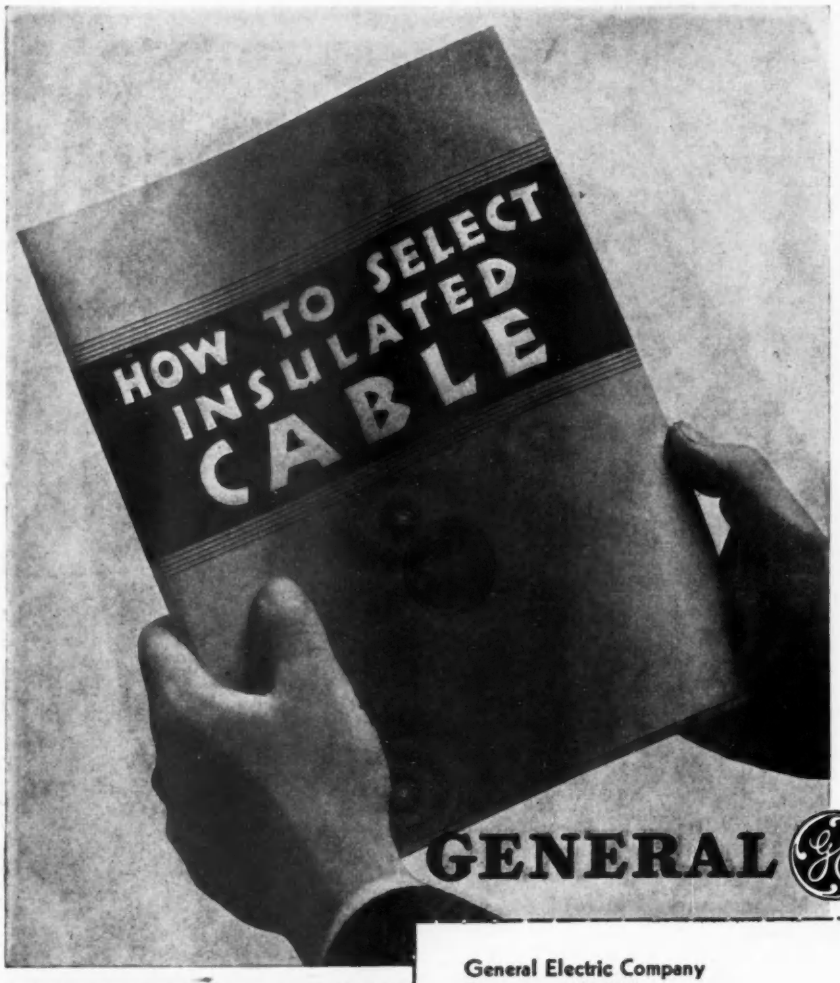


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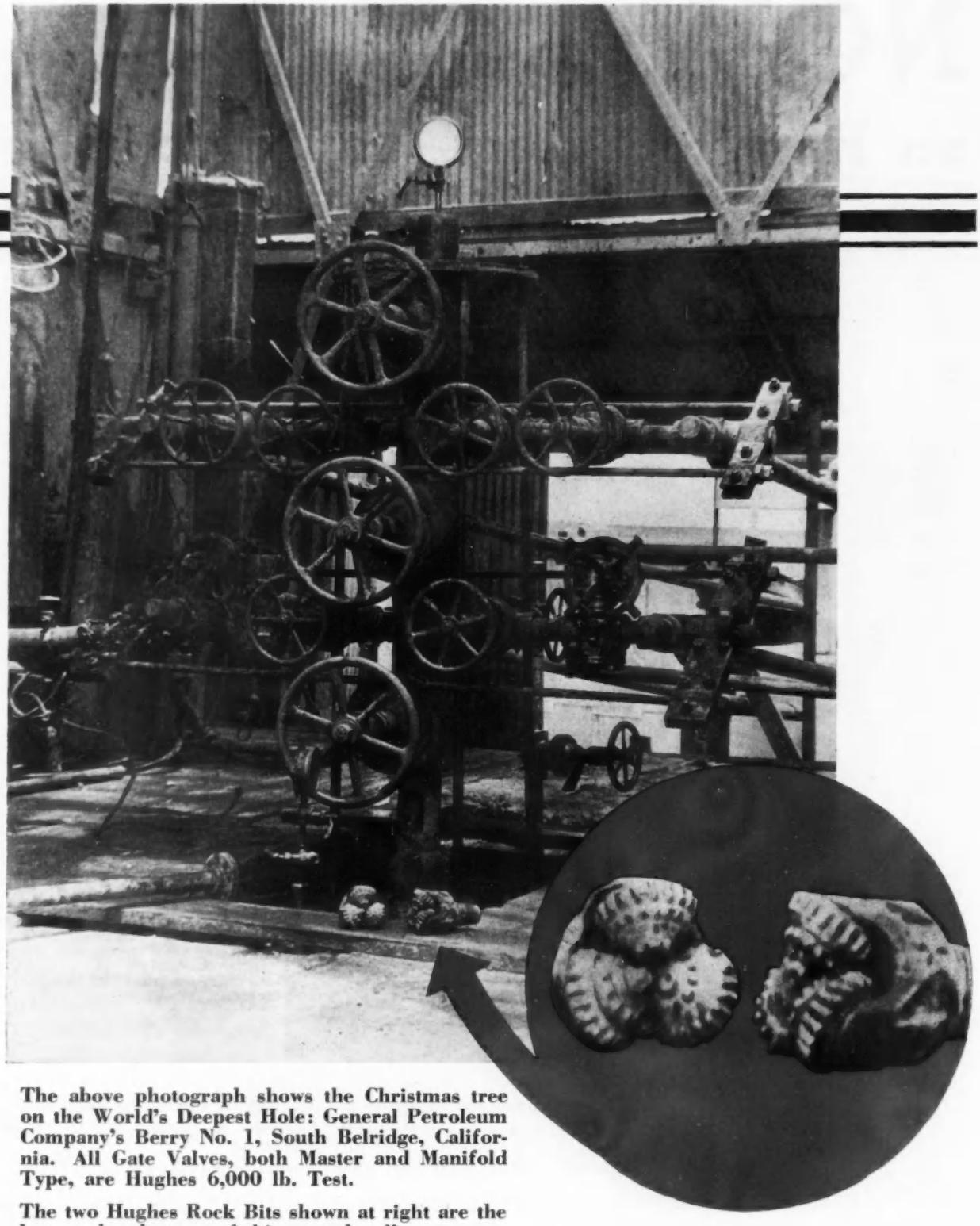

**The above photograph shows the Christmas tree on the World's Deepest Hole: General Petroleum Company's Berry No. 1, South Belridge, California. All Gate Valves, both Master and Manifold Type, are Hughes 6,000 lb. Test.**

**The two Hughes Rock Bits shown at right are the last used at bottom of this record well.**

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**So much for the bottom. The top is equipped with the following 6,000 lb. Test Hughes Valves to take care of any emergency:**

**3—6"—6,000 lb. Manifold Valves.**
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# Oil Bill Dead But Issue Still Alive

***Congressional committee will investigate advisability of enactment of new oil law next session. Texas railroad commission statements possibly stimulate consideration of stronger federal regulation. Markets lose more ground; proposed stabilization plans offer hope.***

By JACK LOGAN

ALTHOUGH the Thomas-Disney oil control bill is now but a memory, stricter and more lasting federal government regulation of the petroleum industry is still emphatically a live issue. The House Interstate Commerce Committee which killed the measure kept the issue alive. On its recommendation the House authorized an investigation as to advisability of congressional passage of a new oil law when the lawmakers convene again next January. The special committee appointed to conduct the investigation into the country's most-investigated industry will get to work early in July.

*—Knott in The Dallas Morning News.*

The Texas Railroad Commission, oil administrative body for fields which most need control, has contributed much, moreover, toward further entertainment of the idea of stronger federal regulation. The commission's contribution has been through the at least temporarily disturbing shakeup in its enforcement organization in the East Texas field. In connection with that matter the commission in an official order estimated East Texas "hot" oil output at 100,000 barrels daily, and in an effort to justify its action in discharging its former chief enforcement officer there, asserted conditions had been growing steadily worse lately. Those were grave admissions, even for justification purposes, particularly for a body which so greatly resented the prospect of stronger federal oil control as proposed in the Thomas-Disney bill.

The East Texas proration chief whom the commission dismissed was R. D. Parker, generally regarded in the industry as well qualified and efficient. Parker said he had apparently made the "fatal mistage of firing political favorites of all three commissioners." He was replaced by Captain E. N. Stanley, who formerly directed East Texas enforcement for the commission. The power to hire and fire, which Parker regarded as leading to his deposition, was not extended to the new chief. The commission reserved that power for itself.

### *Price Declines Extended*

The proposed investigation of the oil business, the Texas Railroad Commission actions and statements, plus continued high output of "hot" oil have had a distinctly depressing effect not only on oil industry spirits but also on oil prices. The markets for petroleum products lost more ground last week, rounding out a full month of steady decline. Crude oil prices, which have remained mostly unchanged since last fall, were in possibly the greatest jeopardy since that time.

(*Continued on page 44*)

Production Engineering

# EXPERIMENTAL DATA ON LABORATORY OXIDATION OF Crude Oils *With Particular Reference to* Air-Repressuring[1]

SAM S. TAYLOR[2] and
H. M. SMITH[3]

IN most oil fields, natural gas is the major source of energy causing flow of oil to the well. The amount of gas produced with the oil generally exceeds actual energy requirements, so that in time the gas reserve of the field becomes seriously depleted and the oil production must be stimulated by some auxiliary means. One of these is to repressure the oil formation with natural gas; or, where a gas supply is not available, often air is used.

Although air is a cheap and convenient repressuring medium, its use sometimes is attended with several disadvantages. First, the return air-gas mixture decreases rapidly in fuel value, often until it can be used no longer as a source of power. At the same time, explosive mixtures may result if recycling is used, causing hazards to life and equipment. Second, some fields experience considerable trouble with the formation of emulsions that become increasingly difficult to treat. Although there is no definite proof that air repressuring always causes these emulsions, many operators are convinced that this is the case.

The Petroleum Experiment Station of the United States Bureau of Mines at Bartlesville, Oklahoma, has been interested in problems connected with air-repressuring for a number of years. Some time was spent in studying the so-called "bad gas"—return air-gas mixture of low fuel value. However, it appeared impossible to attack the problem successfully from this angle, and an approach was made through a laboratory-scale study of direct oxidation of crude oil.

This preliminary report is based on a laboratory investigation in which three representative crude oils of the United States were oxidized and some of the attendant changes in the chemical and physical characteristics determined by tests. It summarizes the experimental methods developed, the tests used to determine the effects of oxidation, and data resulting from the study.

Completion of the investigation and final publication of results have been delayed by shortage of funds. The study to date is outlined in this paper to make some accumulated data available to those interested, pending more detailed analysis and discussion of results of the work.

The study was made under the general supervision of H. C. Fowler, former acting chief engineer, and R. A. Cattell, chief engineer, Petroleum and Natural-Gas Division, Bureau of Mines, and of N. A. C. Smith, supervising engineer of the bureau's Petroleum Experiment Station at Bartlesville. A large part of the experimental work was planned and directed by C. E. Reistle, who is now on furlough from his position as petroleum engineer, Bureau of Mines. A part of the funds used in the study were provided by the State of Oklahoma.

### Crude Oils Studied

Oils representative of each of three major classes of crudes (paraffin, intermediate, and naphthene bases) were selected.[4] A Pennsylvania oil from the Bradford sand near Bradford, McKean County, represented the paraffin-base crudes; an Oklahoma oil from the Squirrel sand near Bartlesville, Washington County, represented the intermediate-base crudes; and a Texas (Gulf Coast) oil from the DeWalt dome near Sugarland, Fort Bend County, represented the naphthene-base crudes.

The chemical and physical characteristics of these crude

[1]Reprinted from U. S. Bureau of Mines Report of Investigations 3238.
[2]Junior chemical engineer, U. S. Bureau of Mines, Petroleum Experiment Station, Bartlesville, Okla.
[3]Associate petroleum chemist, U. S. Bureau of Mines, Petroleum Experiment Station, Bartlesville, Okla.
[4]Smith, N. A. C., and Lane, E. C., Tabulated Analyses of Representative Crude Petroleums of the United States; Bull. 291, Bureau of Mines, 1928, 69 pp.

**TABLE 1**

**Some chemical and physical characteristics of crude oils studied, prior to oxidation, as indicated by Bureau of Mines Hempel-distillation method**

| Sample No. | 31232[1] | 30286[2] | 31233[1] |
|---|---|---|---|
| Field | Bradford | Bartlesville-Dewey | Sugarland |
| County | McKean | Washington | Fort Bend |
| State | Pennsylvania | Oklahoma | Texas |
| Formation | Bradford sand | Squirrel sand | Dewalt dome |
| **General characteristics:** | | | |
| Gravity, °A. P. I. | 45.8 | 35.4 | 28.6 |
| Sulphur content, percent | Less than 0.1 | .23 | .30 |
| Pour point, °F. | Below 5 | Below 5 | Below 5 |
| Viscosity, at 100°F., Saybolt, sec. | 38 | 46 | 56 |
| Color | Darker than N.P.A. No. 6 | Brownish-green | Brownish-green |
| **Total gasoline and naphtha:** | | | |
| Percent | 38.4 | 27.4 | 16.0 |
| Gravity, °A. P. I. | 63.7 | 57.9 | 51.1 |
| **Kerosene and gas oil, sum:** | | | |
| Percent | 24.4 | 26.7 | 33.1 |
| Gravity, °A. P. I. | 43.3 | 37.4 | 30.6 |
| **Lubricating distillate, sum:** | | | |
| Percent | 13.8 | 18.8 | 26.0 |
| Gravity, °A. P. I. | 34.4 | 28.1 | 23.4 |
| **Residuum:** | | | |
| Percent | 21.9 | 26.7 | 24.3 |
| Gravity, °A. P. I. | 26.4 | 19.7 | 18.7 |
| **Carbon residue of crude:** | | | |
| Percent | .3 | 1.7 | .7 |
| **Base of crude:** | Paraffin | Intermediate | Naphthene |

[1]Analyzed by E. L. Garton and C. Suman.
[2]Analyzed by O. C. Blade.

oils, prior to any treatment, are recorded in Table 1. The analyses were made by the Bureau of Mines Hempel-distillation method.

### Oxidizing the Crude Oils

One of the most important and difficult phases of this investigation was the actual oxidation of the crude oils. It was necessary to meet several requirements: (1) Enough material for extensive tests was essential; (2) the explosive hazard made it necessary to maintain safety limits; (3) reasonable accuracy in measurement was needed; and (4) the method had to give some promise of providing check samples. These requirements were met to a certain degree, and after some experimentation the method described below was developed.

The oils were subjected to oxidation in steel bombs at constant temperature and pressure for 182 days. Each bomb contained a pyrex glass tube charged with 1500 cubic centimeters of oil. The glass tube eliminated, to a large degree, the contamination and possible catalytic effect of the iron and iron oxide. The bombs were about six feet long and two inches in diameter, giving a static oil-gas interface of approximately 1.75 square inches. The carbon dioxide ($CO_2$) produced as a result of oxidation was removed chemically by potassium hydroxide (KOH) contained in a holder suspended in the gas space above the oil. The removal of the carbon dioxide greatly decreased the amount of this gas dissolved in the oil and facilitated calculation of the rate of oxygen consumption.

The original pressure, which constantly decreased, presumably due to oxidation reactions, was restored periodically by additions of oxygen. The oil was agitated by these additions, since the oxygen entered at the bottom of the bomb and bubbled through the oil to the surface, causing periodically an unknown increase of the oil-gas interface mentioned above. All gases were measured into and out of the bomb except the $CO_2$, which was calculated by the difference in weight of the absorbers. The temperature of the oxidation system was maintained constant at 110°F. One half of the bombs were charged with pure oxygen and the other half with air. A portion of the oxygen-charged bombs were at a pressure of 40 pounds per square inch gage and the remainder at 77 pounds. Two different pressures were used in the air-charged bombs, such that the partial pressures of the oxygen in the air were approximately equal to the respective total pressures in the bombs using pure oxygen.

### Examining Oxidized Crudes

Other investigators have studied extensively the oxidation of various hydrocarbon oils; but there appears to be no reported investigation concerning the oxidation of a crude petroleum, therefore most of the tests and apparatus used in this study have necessarily been developed in the Bureau of Mines laboratory. Some of the tests, however, are only modifications of standard methods. The oxidized oils used in all of these tests, except that concerning the plugging of the sand core, were centrifuged to remove material which would settle out upon standing.

Oxidation of the oils evolved considerable carbon dioxide ($CO_2$), as reported in Table 2. However, the method used for determining $CO_2$ apparently is not accurate enough to reveal the difference in $CO_2$ production which presumably would result from various degrees of oxidation.

Oxidation and polymerization of the crude oil produce asphaltic materials which are insoluble in the crude and in some instances are insoluble in almost any solvent, including benzol, chloroform, and carbon disulphide. It is evident that if such insoluble products are produced as a result of repressuring a formation with air, they are likely to plug the pore space (see Table 4) of the sand, or other producing formation, and decrease the ultimate production.

These asphaltic materials produced during oxidation, except those removed by centrifuge, were determined by a modification of Padgett's[5] method for estimation of asphaltenes. Table 2 reports the total asphaltic material as determined by centrifuge and by Padgett's method.

Characteristics of the oxidized material preclude accurate determinations, but significant changes are indicated. Thus the Bradford crude shows negligible change in comparison with the Bartlesville and Sugarland oils. The results with the two latter crudes are extreme examples of what might be expected from the oxidation of such oils, and should lead to the plugging of the producing formation. Laboratory results confirming this are presented in Table 4.

Organic acids also result from oxidation of the oil. Their determination is important since there are indications that organic acids may be one of the factors associated with the emulsification of oils. The acid contents of the original and oxidized oils were determined by a modification of the A. S. T. M. method[6] which expresses the acid value as milligrams of potassium hydroxide (KOH) per gram of oil. These results are shown in Table 2.

As mentioned above, some organic acids apparently have the property of increasing the susceptibility of a crude oil

[5]Hamor, W. A., and Padgett, F. W., The Examination of Petroleum; New York, 1920, p. 19.
[6]American Society for Testing Materials, Proceedings; Vol. 27, 1927; tentative standards, p. 927, method D-188-27-T.

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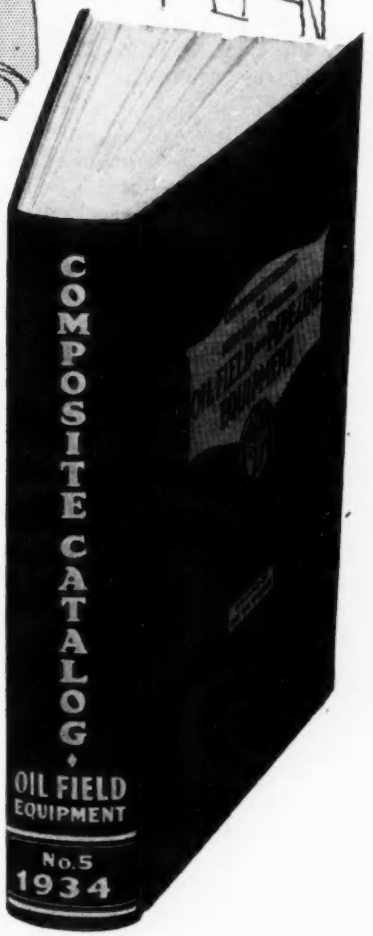


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| Viscosity, at 100°F., Saybolt, sec. | 38 | 46 | 56 |
| Color | Darker than N.P. A. No. 6 | Brownish-green | Brownish-green |
| **Total gasoline and naphtha:** | | | |
| Percent | 38.4 | 27.4 | 16.0 |
| Gravity, °A. P. I. | 63.7 | 57.9 | 51.1 |
| **Kerosene and gas oil, sum:** | | | |
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### Oxidizing the Crude Oils

One of the most important and difficult phases of this investigation was the actual oxidation of the crude oils. It was necessary to meet several requirements: (1) Enough material for extensive tests was essential; (2) the explosive hazard made it necessary to maintain safety limits; (3) reasonable accuracy in measurement was needed; and (4) the method had to give some promise of providing check samples. These requirements were met to a certain degree, and after some experimentation the method described below was developed.

The oils were subjected to oxidation in steel bombs at constant temperature and pressure for 182 days. Each bomb contained a pyrex glass tube charged with 1500 cubic centimeters of oil. The glass tube eliminated, to a large degree, the contamination and possible catalytic effect of the iron and iron oxide. The bombs were about six feet long and two inches in diameter, giving a static oil-gas interface of approximately 1.75 square inches. The carbon dioxide ($CO_2$) produced as a result of oxidation was removed chemically by potassium hydroxide (KOH) contained in a holder suspended in the gas space above the oil. The removal of the carbon dioxide greatly decreased the amount of this gas dissolved in the oil and facilitated calculation of the rate of oxygen consumption.

The original pressure, which constantly decreased, presumably due to oxidation reactions, was restored periodically by additions of oxygen. The oil was agitated by these additions, since the oxygen entered at the bottom of the bomb and bubbled through the oil to the surface, causing periodically an unknown increase of the oil-gas interface mentioned above. All gases were measured into and out of the bomb except the $CO_2$, which was calculated by the difference in weight of the absorbers. The temperature of the oxidation system was maintained constant at 110°F. One half of the bombs were charged with pure oxygen and the other half with air. A portion of the oxygen-charged bombs were at a pressure of 40 pounds per square inch gage and the remainder at 77 pounds. Two different pressures were used in the air-charged bombs, such that the partial pressures of the oxygen in the air were approximately equal to the respective total pressures in the bombs using pure oxygen.

### Examining Oxidized Crudes

Other investigators have studied extensively the oxidation of various hydrocarbon oils; but there appears to be no reported investigation concerning the oxidation of a crude petroleum, therefore most of the tests and apparatus used in this study have necessarily been developed in the Bureau of Mines laboratory. Some of the tests, however, are only modifications of standard methods. The oxidized oils used in all of these tests, except that concerning the plugging of the sand core, were centrifuged to remove material which would settle out upon standing.

Oxidation of the oils evolved considerable carbon dioxide ($CO_2$), as reported in Table 2. However, the method used for determining $CO_2$ apparently is not accurate enough to reveal the difference in $CO_2$ production which presumably would result from various degrees of oxidation.

Oxidation and polymerization of the crude oil produce asphaltic materials which are insoluble in the crude and in some instances are insoluble in almost any solvent, including benzol, chloroform, and carbon disulphide. It is evident that if such insoluble products are produced as a result of repressuring a formation with air, they are likely to plug the pore space (see Table 4) of the sand, or other producing formation, and decrease the ultimate production.

These asphaltic materials produced during oxidation, except those removed by centrifuge, were determined by a modification of Padgett's[5] method for estimation of asphaltenes. Table 2 reports the total asphaltic material as determined by centrifuge and by Padgett's method.

Characteristics of the oxidized material preclude accurate determinations, but significant changes are indicated. Thus the Bradford crude shows negligible change in comparison with the Bartlesville and Sugarland oils. The results with the two latter crudes are extreme examples of what might be expected from the oxidation of such oils, and should lead to the plugging of the producing formation. Laboratory results confirming this are presented in Table 4.

Organic acids also result from oxidation of the oil. Their determination is important since there are indications that organic acids may be one of the factors associated with the emulsification of oils. The acid contents of the original and oxidized oils were determined by a modification of the A. S. T. M. method[6] which expresses the acid value as milligrams of potassium hydroxide (KOH) per gram of oil. These results are shown in Table 2.

As mentioned above, some organic acids apparently have the property of increasing the susceptibility of a crude oil

[5]Hamor, W. A., and Padgett, F. W., The Examination of Petroleum; New York, 1920, p. 19.
[6]American Society for Testing Materials, Proceedings; Vol. 27, 1927; tentative standards, p. 927, method D-188-27-T.

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to form emulsions. In addition, these acids affect the surface energies of an oil, especially the interface between oil and water. In general, the changes in the acid values of the oxidized oils correlate roughly with the increases in the asphaltic materials formed by oxidation. The actual acid values correspond with the decreases recorded in the determination of interfacial tension. The emulsification tendency of these oxidized oils is indicated by the water-flooding tests described below, in which the Bartlesville and Sugarland oils gave much more evidence of emulsion formation than the Bradford oil.

Some investigators have claimed that the surface tension of an oxidized oil decreases appreciably with an increase in the degree of oxidation. This was not found to be the case with the crude petroleums studied. However, the interfacial tension does decrease considerably and probably is the most important test from a production standpoint. The interfacial tension test as made measures the strength of the film existing at a water-oil interface, which, other factors being equal, depends upon the degree of oxidation of the oil and the chemical composition of the water. The probable influence of organic acids on interfacial tension has been discussed above.

Both the surface tension and interfacial tension were measured at 20°C. by a tensiometer, which gives directly the strength of the film in dynes per square centimeter. The results are given in Table 2.

### No Emulsion Test

Unfortunately no dependable emulsion tests exist for measuring and classifying emulsions produced under various conditions. However, under certain standard conditions, emulsions have been prepared with oxidized oils which are very stable and decidedly different from those prepared with the unoxidized oils. Emulsions made with oxidized oils were in some cases jelly-like masses and almost solid, particularly in the case of the Bartlesville and Sugarland crudes.

**TABLE 3**

**Effects of oxidation on production of crude oil from standard sand core by water-flooding**

| Total elapsed time ("t") minutes | Rate of production of oil, water, or emulsion, expressed in cubic centimeters per minute at end of time "t" | | | | | |
|---|---|---|---|---|---|---|
| | Bradford oil | | Bartlesville oil | | Sugarland oil | |
| | Original | Oxidized bomb 27 | Original | Oxidized bomb 32 | Original | Oxidized bomb 36 |
| 0.167 | [1]15.78 | [1]7.14 | [1]10.02 | [1]4.62 | [1]6.52 | [1]4.08 |
| .333 | [2]15.78 | [1]7.14 | [1]10.02 | [1]4.62 | [1]6.52 | [1]4.08 |
| .500 | [2]15.78 | [1]7.14 | [2]10.02 | [1]4.62 | [1]6.52 | [1]4.08 |
| .667 | [2]23.10 | [1]7.14 | [2]15.00 | [1]4.62 | [1]6.52 | [1]4.08 |
| .833 | [2]27.36 | [1]6.66 | [2]15.00 | [1]4.62 | [2]11.11 | [1]4.08 |
| 1.0 | [2]27.36 | [1]6.66 | [2]19.98 | [1]4.62 | [2]11.11 | [1]4.08 |
| 1.5 | [2]27.36 | [2]9.12 | [2]23.10 | [1]4.00 | [2]12.50 | [1]3.60 |
| 2.0 | | [2]9.12 | | [2]4.00 | [2]14.29 | [1]3.60 |
| 2.5 | | [2]9.12 | | [3]5.76 | | [3]3.60 |
| 3.0 | | | | [3]5.76 | | [3]4.14 |
| 3.5 | | | | [3]6.12 | | [3]4.14 |
| 4.0 | | | | [3]6.12 | | [3]5.16 |
| 4.5 | | | | | | [3]5.16 |
| 5.0 | | | | | | [3]4.86 |

[1]Oil produced.
[2]Oil and water produced with an increasing ratio of water to oil.
[3]Oil, water and emulsion were produced with an increasing ratio of water to emulsion.

Data obtained by the Bureau of Mines Hempel-distillation method does not show any appreciable difference between the oxidized and unoxidized oils.

In some fields water-flooding of the oil-producing formation has been used to stimulate production. Since oxidized oils tend to emulsify easily, it appeared possible that water-flooding a property that has been repressured with air might be detrimental. Tests simulating this condition were therefore made in the laboratory using a standard sand core. Early in the investigation a method for making a sand core was developed which utilized closely graded Wilcox sand and gave duplicable cores with constant permeability. The core used in this series of experiments was

**TABLE 2**

**Data relative to constant pressure oxidation of crude oils at 110° F., using both air and pure oxygen**

| Bomb No. | Gage pressure, pounds per square inch | | Carbon dioxide evolved per 100 grams of oil during oxidation, grams | Asphaltic materials present in oil, percent | | | Acid value, expressed in milligrams of KOH per gram of oil | | | Interfacial tension water-oil interface, dynes per square centimeter at 20°C. | | | Surface tension dynes per square centimeter at 20°C. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Oxygen | Air | | Original | Oxidized | Percent Change | Original | Oxidized | Percent Change | Original | Oxidized | Percent Change | Original | Oxidized | Percent Change |
| **PENNSYLVANIA CRUDE (BRADFORD FIELD)** | | | | | | | | | | | | | | | |
| | | | | 0.006 | | | 0.040 | | | 24.60 | | | 26.90 | | |
| 3 | 40.0 | | 0.0672 | | 0.00027 | —95 | | 0.110 | +175 | | 15.00 | —39.0 | | 27.00 | +0.37 |
| 9 | 77.0 | | .1202 | | .00029 | —95 | | ..... | ..... | | 15.70 | —36.2 | | 27.00 | + .37 |
| 21 | (39.9) | 245 | .2833 | | .00028 | —95 | | .153 | +282 | | 15.60 | —36.6 | | 26.90 | .00 |
| 33 | (76.5) | 420 | .0755 | | .01100 | +83 | | .202 | +405 | | 15.10 | —38.6 | | 27.10 | + .74 |
| **OKLAHOMA CRUDE (BARTLESVILLE-DEWEY FIELD)** | | | | | | | | | | | | | | | |
| | | | | 0.024 | | | 0.028 | | | 26.50 | | | 29.20 | | |
| 1 | 40.0 | | 0.1483 | | 0.369 | +1,437 | | 0.311 | +1011 | | 17.30 | —34.7 | | 29.00 | —0.68 |
| 8 | 77.0 | | .1718 | | .295 | +1,129 | | .318 | +1036 | | 16.70 | —37.0 | | 29.15 | — .17 |
| 19 | (39.9) | 245 | .1535 | | .385 | +1,504 | | .316 | +1029 | | 17.40 | —34.3 | | 29.30 | + .34 |
| 32 | (76.5) | 420 | .1769 | | .410 | +1,608 | | .302 | + 979 | | 17.40 | —34.3 | | 29.40 | + .68 |
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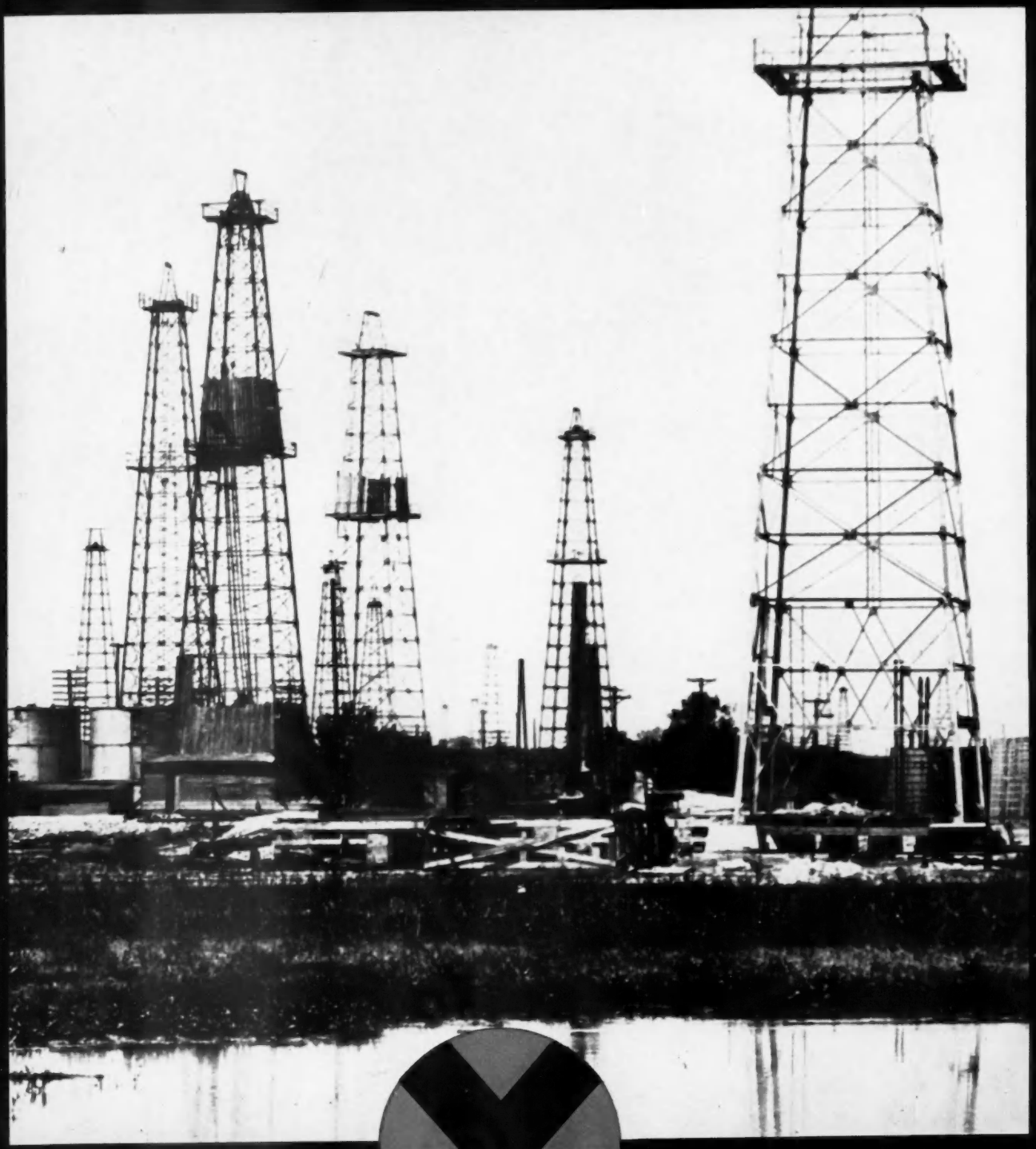
| | | | | 0.016 | | | 0.190 | | | 24.00 | | | 31.40 | | |
| 6 | 40.0 | | 0.1334 | | 0.099 | + 519 | | 0.730 | + 284 | | 2.80 | —88.3 | | 30.90 | —1.59 |
| 11 | 77.0 | | .1481 | | .119 | + 644 | | .573 | + 202 | | 1.00 | —95.8 | | 31.00 | —1.27 |
| 23 | (39.9) | 245 | .1322 | | .043 | + 169 | | .519 | + 173 | | 6.50 | —72.9 | | 31.00 | —1.27 |
| 36 | (76.5) | 420 | .0959 | | .044 | + 175 | | .551 | + 190 | | 7.50 | —68.7 | | 31.20 | — .64 |

[1]Figures in parentheses are partial pressures of oxygen.



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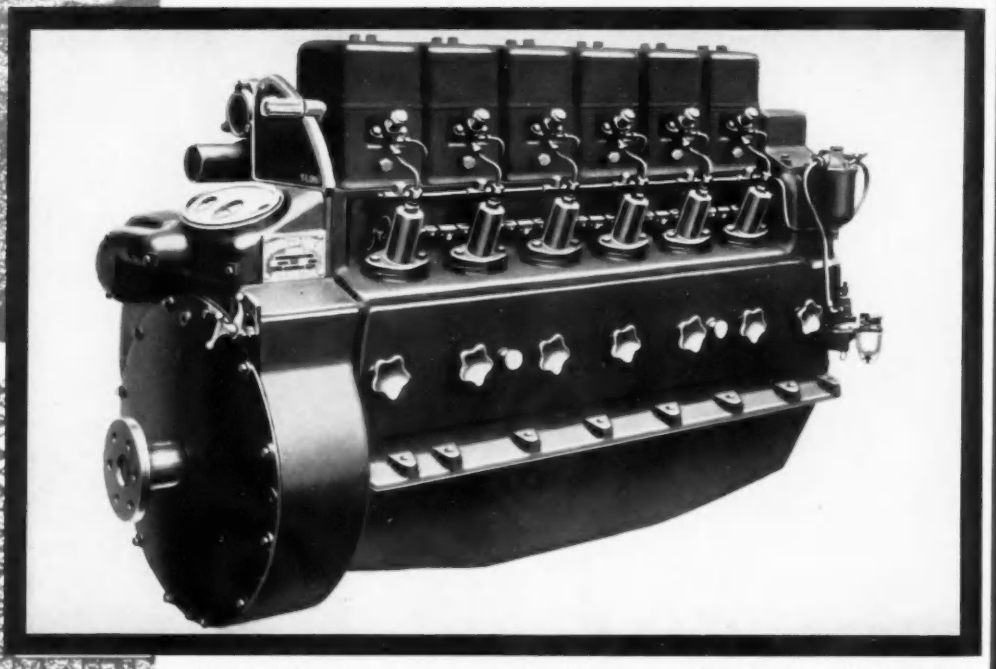

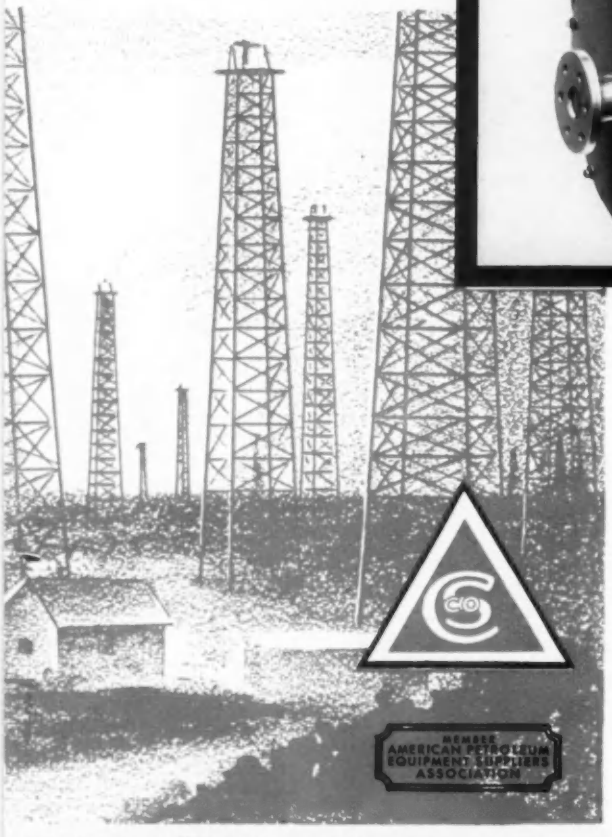


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# CONTINENTAL

TABLE 4

**Data showing plugging effect produced by oxidized crude oil flowing through standard sand core**

| Total elapsed time ("t") minutes | Rate of production of oil expressed in cubic centimeters per minute at end of time "t" | | |
|---|---|---|---|
| | Bradford oil | Bartlesville oil | Sugarland oil |
| 1 | 9.49 | 3.18 | 5.46 |
| 2 | 9.09 | 1.51 | 5.46 |
| 3 | 8.61 | 1.16 | 5.46 |
| 4 | 8.01 | 1.03 | 5.46 |
| 5 | 7.74 | 1.00 | 4.80 |
| 6 | 7.27 | .96 | 4.43 |
| 7 | 6.89 | .95 | 4.29 |
| 8 | 6.52 | .92 | 4.18 |
| 9 | 6.39 | .92 | 4.02 |
| 10 | 5.73 | .92 | 3.90 |
| 15 | 4.85 | .84 | 2.74 |
| 20 | 3.48 | [1].83 | 2.29 |
| 25 | 2.87 | [1].81 | 1.96 |
| 30 | 2.68 | [1].78 | 1.74 |
| 35 | 2.38 | [1].74 | 1.62 |
| 40 | 2.09 | | 1.28 |
| 45 | 1.95 | | 1.18 |
| 50 | 1.87 | | 1.02 |
| 60 | 1.53 | | .95 |
| 70 | 1.38 | | .92 |
| 80 | | | .78 |
| 90 | | | .65 |
| 100 | | | .58 |
| 120 | | | .59 |
| 140 | | | .59 |
| 160 | | | .59 |

[1]Upstream pressure, approximately 10 pounds per square inch gage; all others, approximately 5 pounds per square inch gage.

**Note:** Downstream pressure atmospheric in all cases.

three inches long and one inch in diameter and was made up with a sand cut such that a porosity of approximately 47 percent was obtained.

This core was saturated with the oil to be studied and subjected to water-flooding. The time required to produce unit volumes of liquid was ascertained, from which production rates could be calculated. The upstream pressure was held constant at two pounds per square inch gage, the downstream pressure was atmospheric, and the temperature of the entire system was maintained constant at 80°F. Table 3 summarizes the results of this study, but a brief description of the actual test helps to visualize the situation.

When the pressure was applied to the face of the sand the resultant oil flow apparently was due to hydraulic drive, but as the water proceeded into the sand some combination of physical forces occurred that momentarily stopped the flow in the case of the oxidized oils. The production after this break was largely water and emulsion, the ratio between the two being dependent upon the oil used, and the rate of production increased until theoretically it approached that of pure water through an oil-free core. With the Sugarland and Bartlesville oxidized oils emulsions occurred, whereas none were observed with the original oils. These emulsions apparently formed within the sand core. The Bradford oxidized oil did not give visual evidence of emulsion formation. The sand core had a pore space of about 14 cubic centimeters, and in each case approximately 10 cubic centimeters of oil were recovered, including that resulting from "break-down" of emulsions.

Table 4 contains data showing the plugging effect produced by oxidized crude oil flowing through standard sand cores. These tests are not strictly comparable, since in the case of certain oils, the Texas crude for example, there was


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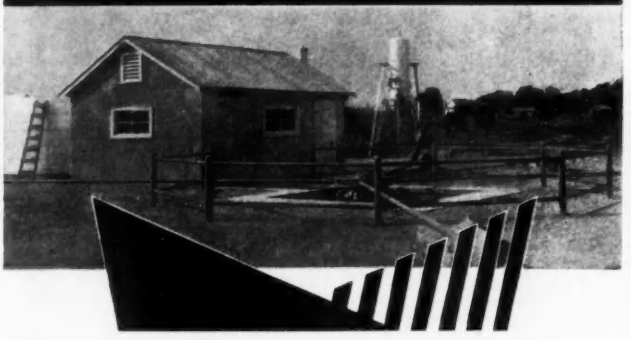

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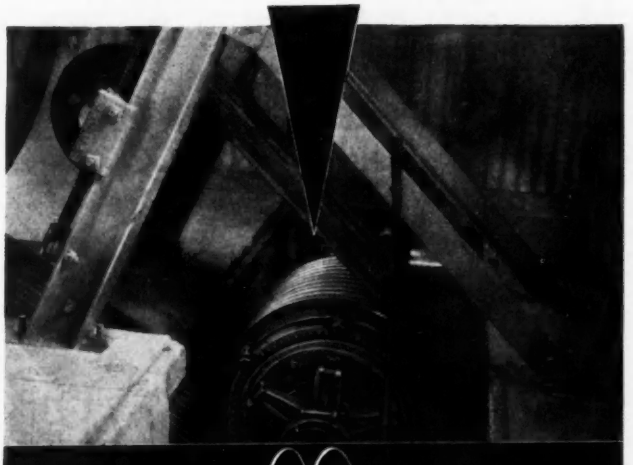

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so much solid material in the oxidized oil that some of it precipitated from the oil and did not remain in suspension. Also, in this experiment it was necessary to vary one of the factors which preferably should have been maintained constant, namely, pressure. Data for unoxidized crudes are not given in the table, since at the pressure necessary for the oxidized oils the flow of oil would be too rapid for accurate measurement. However, the original or unoxidized oils were subjected to flow tests at 100° F. through a standard sand core with a porosity of 34.7 percent, using a constant upstream pressure of one pound per square inch gauge and a downstream pressure of atmospheric. The rate of flow of each unoxidized oil remained substantially constant during the entire period of the experiment.

After being subjected to the conditions given above for approximately two hours the oxidized Bartlesville oil did not flow through the sand core at all. The pressure was then increased to five pounds per square inch gauge upstream pressure, and oil flowed at the rates given. In the table opposite total elapsed time, $t = 20$, it will be noted that the upstream pressure on the Oklahoma oil was increased from five to 10 pounds. Even with such a change the rate did not increase but gradually declined as the plugging continued.

### Summary and Conclusions

When crude oils are oxidized the following results may be expected:

1. $CO_2$ is produced.
2. Asphaltic materials and gums insoluble in the crude are formed.
3. Acid values increase.
4. Surface tensions remain virtually the same.
5. Interfacial tensions decrease.
6. Water-flooding tests with sand cores will indicate decreased production due to formation of emulsion.
7. Tests of rate of flow of the oxidized oil through sand cores will indicate plugging.

The magnitudes of these changes depend upon:

1. The chemical individuality of the crude.
2. The degree of the oxidation, which depends upon such factors as time, contact, temperature, and concentration of oxygen.

In general, the resistance of the crude oils studied toward oxidation decreased in the following order—paraffin base, intermediate base, and naphthene base.

The data from the water-flooding and plugging tests should not be interpreted to mean that such results will occur immediately where an oil-bearing formation is subjected to repressuring with air. The oils used in these tests had been subjected to severe oxidation, and it is not certain that long-continued oxidation under less drastic conditions would produce similar results. However, it is believed that the general conclusions found from these experiments would more or less typify the ultimate conditions which would be obtained after long-continued use of air.

In particular, the use of water-flooding as a means of stimulating production after repressuring with air should be approached with caution. In general, wherever the production of oil is attended with considerable water, emulsion troubles may be expected to result eventually if air is used as a propelling agent to force the oil from the sand. Furthermore, the extreme differences in the results obtained with the so-called paraffin-base crude on the one hand and the intermediate- and naphthene-base types on the other indicate that an analysis of the crude will be of value in considering any project for repressuring with air.

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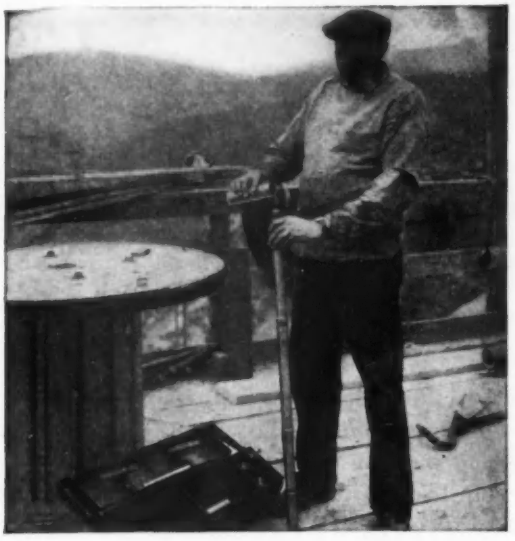

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4731 East 52nd Drive, Los Angeles, California, U. S. A.

*Designed and Manufactured by The Pioneer of Commercial Coring.*

# East Texas Field *Shows Conservation Is Beneficial to* Well Flowing Life

BRAD MILLS

STEADY performance of the average East Texas well indicates the field, as a unit, still has a long flowing life. This pool has the unusal distinction of having a higher bottom-hole pressure than a year ago. This improved status has been the result of lower well allowables, stricter proration enforcement, and better production practices.

Despite a steady drilling program and completion of 13,500 wells, the field through proration has been able to show a minimum rate of pressure decline. When the cubic content of the producing zone is calculated, it is not difficult to understand why the average well has no trouble in flowing its small allowable in a short time. The field has been extended to include nearly 117,000 productive acres. Average thickness of the Woodbine sand is almost 50 feet, and the average thickness capable of producing oil satisfactorily is about 70 percent of the total, or between 34 and 36 feet.

A year ago when the field was producing around 1,000,000 barrels per day, the field pressure declined rapidly. This development not only led to rumors of all kinds, but caused operators in all parts of the field to install pumping equipment in anticipation of a rapid bottom-hole pressure decline.

The frenzy of excitement was fully justified at the time, but by restoring order in the field and bringing production down to somewhere near the allowable, the bottom-hole pressure increased steadily for several months. The pressure between April 20 and June 30, 1933, declined from 1375 to 1250 pounds, but a reduction in the daily output caused it to gain back a good portion of the loss. The pressure climbed to about 1270 pounds at the end of 1933.

Petroleum engineers have been watching the bottom-hole pressure closely since January 1. A study of individual wells and the field as a whole has not revealed a single alarming factor. The field is so large and proration effective enough that the change in the status of the field has been negligible.

There is no way to determine how long any field will flow. So many factors enter into estimates and predictions that all reports must be classed as little more than guesswork. East Texas is certainly no exception to the rule. A steady drilling program is under way, and from 1000 to 2000 wells dotted around in the field may change any picture now drawn for future use.

The average field will flow from 25 to 50 percent of its estimated recoverable oil. It is not unusual for fields producing from very porous sands to flow more than 50 percent of the total recoverable oil. Many fields producing from very tight sands will not flow 25 percent of their recoverable oil. The manner of development also is a factor.

The East Texas field has produced (to June 15, 1934), about 475,000,000 barrels of oil. It will yield a total of at least 2,000,000,000 barrels, according to average estimates. Granting that the field will flow 40 percent of the total recoverable oil, the flowing life will extend far into the future. By reducing the flowing production to 35 percent of the total recoverable oil, the field still will produce more than 200,000,000 barrels additional by natural methods.

Several operating companies have placed the total recoverable oil at 2,500,000,000 barrels. Action of the fields seems to warrant such an optimistic outlook. This total indicates a still longer flowing life for the field. One company estimates that the majority of its wells will continue to flow for more than two years.

A disturbing factor is the development still under way. Wells are being completed at an average of 70 per week. Each weekly group helps to place the pressure decline curve in a more vulnerable position. This intense development is doing as much to weaken the position of the field as a daily production of 450,000 barrels. There is always some waste of pressure in completing and adjusting a well, and the flowing life of many low pressure producers will be affected by future offsets.

The field now has one producing well to each 8 2/3 acres. Despite the great size of the field, development has been fairly uniform. The north end (Longview-Gladewater) of the field has about 5100 producing wells, the middle section (Kilgore), approximately 4150 wells, and the south end (Joiner-Henderson), about 4250 wells.

An analysis of the action of individual wells that have caused trouble is interesting. Reports that wells will start flowing and flow normally with bottom-hole pressures as low as 600 and 700 pounds are erroneous. A careful check of wells nearing the border line between the flowing and pumping stage showed that a bottom-hole pressure of from 900 to 1150 pounds was required to flow wells satisfactorily where the usual short production period each 24 hours was practiced.

Several wells are flowing with a low bottom-hole pressure because they are surrounded by immediate areas that show normal pressures. These wells are not representative producers, and engineers claim bottom-hole pressures obtained in these wells are not a true pressure of the immediate sector.

If it were possible to flow wells at a conservative rate for the full 24 hours, they would normally produce naturally for a much longer period than where it is necessary to flow them from a few minutes to a few hours to obtain the full 24-hour allowable. Experience has proved that the greatest difficulty with a low pressure well is in getting it to start flowing.

Many of the weak flowing wells are very sensitive. One company recently lost two wells from the flowing list when slight leaks developed in valves on the Christmas tree. These leaks were stopped and the wells resumed their normal flow. It was necessary to swab them back on production, however.

A few weak wells in the north end of the field are near the end of their flowing life, yet they show a remarkable resistance to decline. Many of these wells may be killed with one barrel of water, but they are still able to flow their full allowables with little effort. Some trouble has been experienced in starting these wells, but they respond readily to a little help.

The average field pressure (bottom-hole) is still around 1250 pounds. The decline during the past 60 days has been about six pounds. This pressure is not uniform in all sections of the field, but weak wells in a given area are influenced by action and performance of stronger wells nearby.

Paraffin has been causing some trouble in low-pressure wells. Most operators flow all wells as rapidly as possible.

***A steel pumping derrick has replaced the wooden structure used in drilling the discovery well of the East Texas field.***

This helps to prevent an accumulation of paraffin, since the warm oil from the producing formation does not cool much through a rapid flow. The average tubing string holds about 18 barrels of oil, or half the daily allowable of many producers. The oil held in the tubing cools between the daily flows, and little more than half of production is warm oil. The "setting" or congealing of the oil in the tubing has been a disturbing factor in many weak wells.

When opened, strong wells start flowing with little effort. They show such a tremendous reserve strength that thought of placing them on the pump apparently may be deferred indefinitely. They will eventually go this route, but where some of the best producers are capable of flowing at an 800-barrel per hour rate, they may not go on the beam for several years.

Several wells have stopped flowing with bottom-hole pressures of 1100 pounds, and a few wells have refused to "kick off" with pressures of 1200 pounds. These wells are exceptions, and are usually located in the worst paraffin belt.

The value of proper production methods was illustrated in the spring and early summer of 1933. A large number of wells stopped flowing between April 20 and July 1, or during the worst overproduction period. Many of these dead wells started flowing after production was reduced to about 500,000 barrels daily.

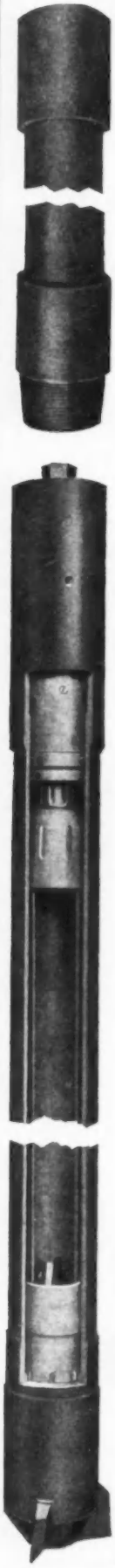
A large number of wells have been placed back in the flowing list by simple cleanout methods. An ordinary paraffin scraper on a line has been effective. Chemicals and steam also have been used with success.

Magnolia Petroleum Company has been using a miniature cable tool string to remove and loosen paraffin. This small string is run in the tubing in connection with a tubing head, and the well is allowed to clean itself while the tools are being used. The tool string includes socket, jars, sinker bar and small bit.

Paraffin accumulates near the top of the hole and particularly near the site of an upper cold shale and water streak. This paraffin trouble is connected closely with the tendency of weak wells to stop flowing.

Several companies have restored a large number of wells to natural flow by making necessary changes or repairs. The wells are shallow enough that mechanical trouble may be overcome easily where the bottom-hole pressure is high.

Magnolia Petroleum Company recently completed two suc-



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*Mid-Continent Sales:* L. D. HILTON, Oklahoma City


cessful plug-back jobs in the north end of the field. Atkins 12 was plugged back four feet with one sack of cement, and started flowing clean oil. It formerly swabbed water and some oil. The company's Atkins 7 was plugged back eight feet with 1150 pounds of lead wool, and is now flowing clean oil. Production previously was 50 percent water.

Almost as many wells are being returned to flowing production as are going off production. This condition, of course, will not prevail indefinitely, but as long as the field output is held to 500,000 barrels daily, or less, many of the weak wells will flow with little help.

Water encroachment ultimately may be a factor in forcing producing wells out of the flowing list, but it has caused little trouble in the past. A definite water drive is present, it is thought, but the oil sand volume is too great to permit water trouble at this development stage.

The chief exception to the fast-flowing rule is in wells producing a high percentage of water. Several companies have found it possible to limit and even eliminate water by flowing wells at a very low rate. They have also returned many wells to the flowing class by this method. The tendency of a well to flow oil without water is naturally pronounced, and where the differential between a natural flow and artificial production is represented by excess water, elimination of the water is often effective in restoring the flow.

As the stronger wells approach a weaker position, it may be necessary and wise to allow them to flow through longer intervals. This does not appear necessary now, but as paraffin becomes more of a problem, and it becomes increasingly difficult to get the full allowable, a steady flow may prove best. The rapid flow looks best at this time, however. Water encroachment may also necessitate a slower production from a large number of wells.

East Texas is considered a shallow field, and wells will normally flow longer and easier than might be the case in extremely deep fields. The wells also are more responsive to treatment than deeper producers.

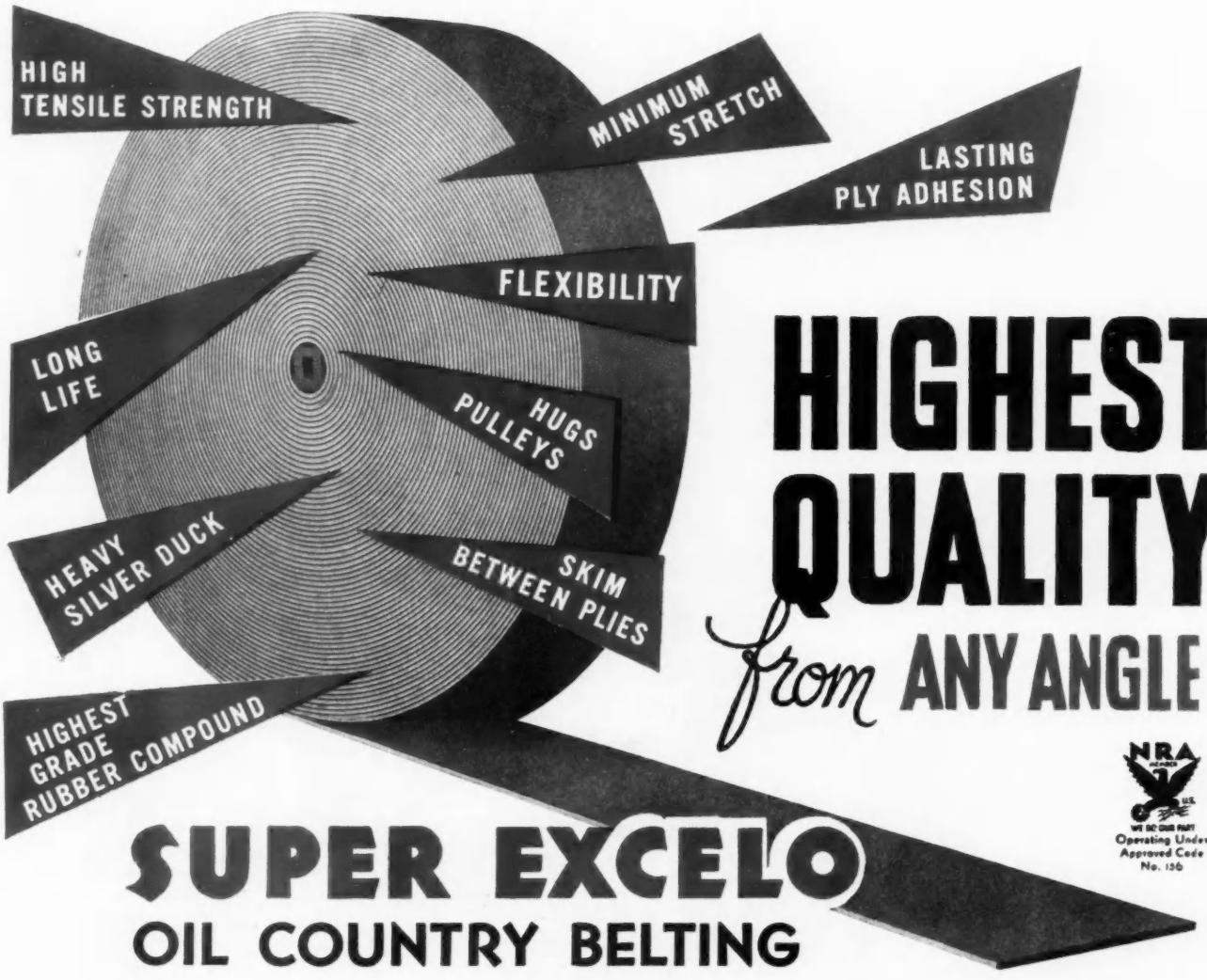
Of the 13,500 producers in the field, probably not more than four percent require pumping. Most of the pumping wells are on extreme edge leases, with the southeast, north and east flanks accounting for the majority of such production. The producing zone thins out toward the east side, and many wells have been completed with a limited thickness of oil sand.

East Texas is definitely a field affected by a strong water drive, according to many engineers. Movement of water into the oil zone has been indicated, but under proper producing conditions this encroachment may not cause much trouble. One group of engineers hold to the claim that the field is not affected by a water drive.

Wells along the extreme west side of the field will require pumping ahead of inside wells, while the east side producers along the thin oil zone belt will also be affected more quickly by drainage than wells along the center belt. The greatest sand thickness lies along a central belt running from one end of the field to the other.

If production is held to its present level, there is no reason to believe the majority of producing wells in the East Texas field are in immediate danger of going on the pump. Most of the best producing wells will normally be flowing at the end of 1935, and if drilling could be checked or stopped and production held down, they might be expected to flow for several years more. The amount of oil produced daily and the number of wells drilled will be determining factors in the future.

In the meantime, however, pumping equipment is and will continue to be purchased at a steady rate. Many companies are looking ahead and constantly are taking care of future equipment needs. Recently, one major company placed an order for 47 geared powers, but this size purchase is unusual.

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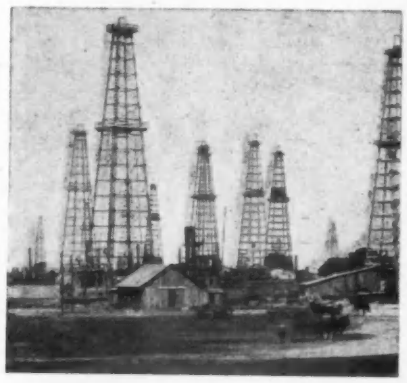

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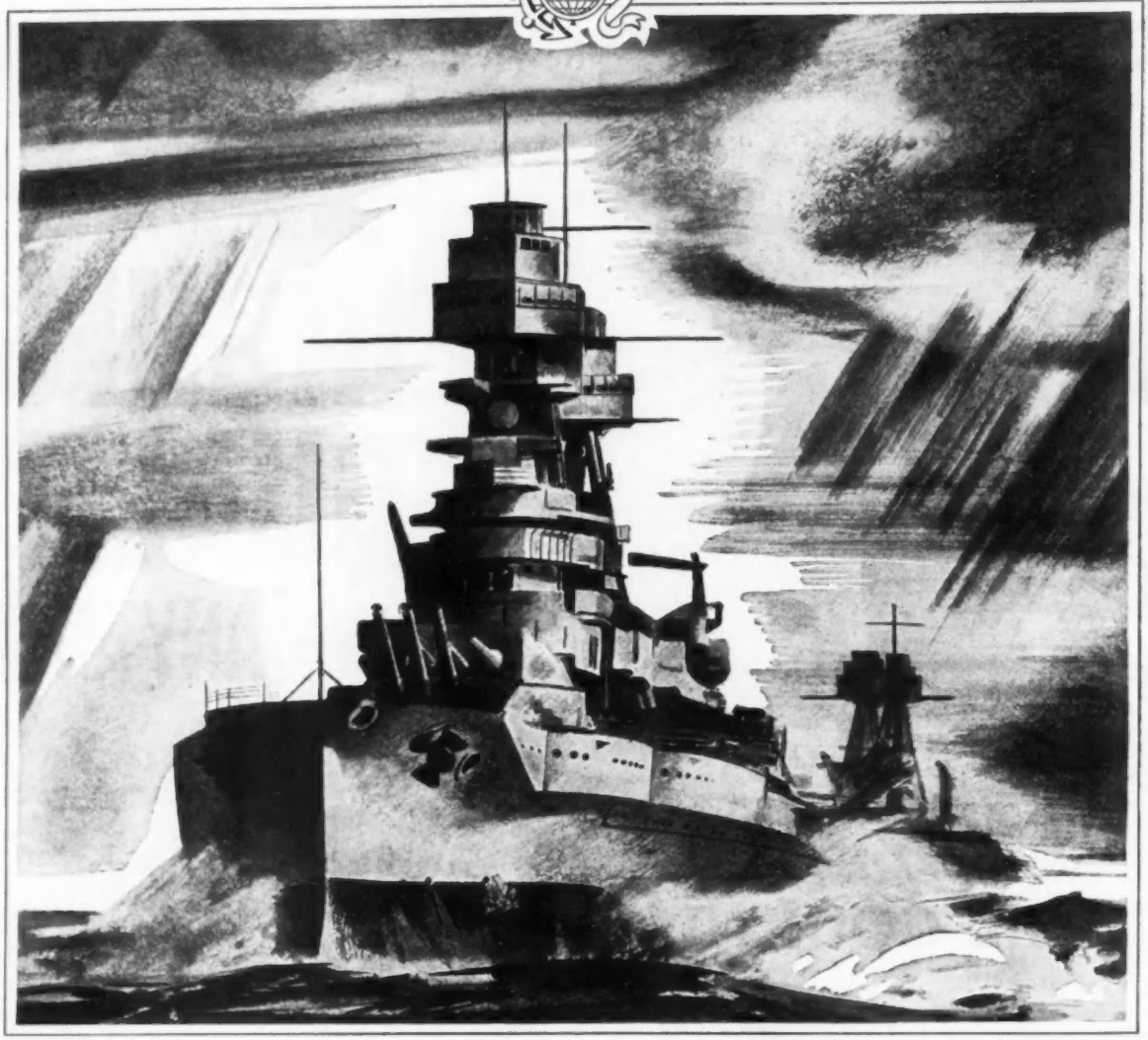

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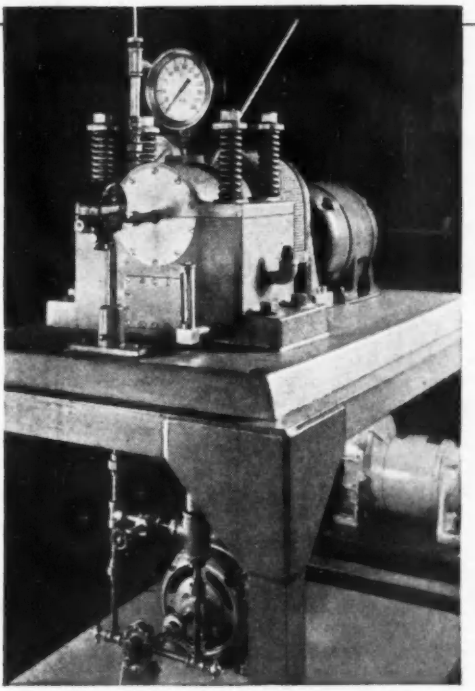

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Natural Gas Engineering

# Calculation of Orifice Coefficients

MAX K. WATSON
*Canadian River Gas Company*

*Presented at Southwestern Gas Measurement Short Course, Norman, Oklahoma*

## PART II

DIRECT-READING charts are used on the same type of meters as the standard differential-pressure charts. The scale of the direct-reading charts is so arranged that the differential and pressure record is read as the square root of the actual differential and absolute pressure. The only difference in setting or checking a meter equipped with this type of chart is in setting the pressure pen to read plus atmospheric pressure at zero gauge or at the absolute static pressure on the meter throughout its range. This type of chart is of uniform scale for any combination of meter ranges, the meter factor adjusting for the differential and pressure range of the meter. In order to understand this type of chart and the unit coefficient used with it, the scale of the chart and the range of the meter must be analyzed. The range of the direct-reading chart is from 0 to 10 which is equivalent to 0 to 100 on a standard chart. It is obvious that on a 100-inch and 100-pound meter range, the square root of the maximum range or $\sqrt{100}$ equals 10 and the meter factor for the direct-reading chart of this range is 1.000. This relation holds for the whole range of the chart. For example, a reading of 50 inches or 50 pounds on a standard chart of 100 inches and 100 pounds range will read $\sqrt{50}$ or 7.07* on a direct-reading chart. A meter with a range of 50 inches differential and 500 pounds pressure would have a meter factor of 1.581. This meter factor is obtained as follows: The maximum differential range is 50 inches, which is equivalent to 10 on the direct-reading chart or $\sqrt{50}$ must equal 10. However, 10 equals $\sqrt{100}$, so we must multiply the direct reading-chart by $\sqrt{0.5}$ so that $\sqrt{100} \times \sqrt{0.5}$ is equivalent to $\sqrt{50}$. For the same reason, the maximum pressure range of 500 pounds is equivalent to $\sqrt{100} \times \sqrt{5}$ at the maximum direct-reading chart range of 10. Therefore, when the direct-reading chart is read and the product of the square root of the differential and pressure obtained as an extension, these values must be multiplied by $\sqrt{0.5}$ and $\sqrt{5}$ or $\sqrt{h} \times \sqrt{0.5}) \times (\sqrt{P} \times \sqrt{5})$ is the correct extension. Thus, the product of the differential and pressure from the direct-reading chart values must be multiplied by $\sqrt{0.5 \times 5}$ or $\sqrt{2.5}$, which equals 1.581* on the 50-inch and 500-pound meter. Since the delivery is the product of the extension, meter factor and coefficient and the meter factor and coefficient are constant for any one meter, they are combined into one factor called the unit coefficient and the delivery is then the product of the direct-

*Type of Separator in use at Iowa, in South Louisiana*

RIDGID Wrenches are

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*New 7000 Lb. Super-X Alloy Handle Gives Unequaled Strength*

WITH guaranteed housing and powerful I-beam handle, RIDGID has always been strong enough for any job. Now it's more than twice as strong, real heavy-duty if there ever was one.

Our new Super-X Metal is neither malleable nor steel but has the best qualities of both. The 24" RIDGID actually holds a load of 7000 lbs. 9½" from the jaw. You can't get enough pipe and men on the handle to equal half of that.

Heavy-duty — and we mean just that — but it's the regular RIDGID Wrench at the regular price.

*And you still get these* RIDGID *advantages*

1. Replaceable heel jaw.
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4. Heel and hook jaws of chrome molybdenum nickel steel.
5. Comfortable-grip double strength I-beam handle.
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7. Instant grip, instant let-go. No slipping. You can't lock it on a pipe.
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*Try it once — you'll never want to use any other.*

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RIDGID PIPE TOOLS

reading chart extension and the unit coefficient or the unit air coefficient is:

$$C_{au} = M\ C_a$$

where $C_{au}$ = Meter factor
$C_a$ = Air or Basic Coefficient

**Sample Calculation of Coefficients—Standard Chart Coefficient**

Conditions:

Line tap — 2½ and 8 diameters
Size orifice, d = 2.502 inches
Size line D = 6.065 inches
Pressure base, $P_b$ = 16.4 lb. abs.
Temp. base, $T_b$ = 520 deg. abs.
Flowing temp. $T_f$ = 50 deg. = 510 deg. abs.
Spec. grav. G = .70

$$\text{Ratio } X = \frac{2.502}{6.065} = .4125$$

$$C_v = .58925 + (.2725 \times .4125) - (.825 \times \overline{.4125}^{\,2}) + (1.75 \times \overline{.4125}^{\,3})$$

$$C_v = .68411$$

Substituting in basic hourly coefficient (equation (13))

$$C_a = 345.92\ C_v\ d^2$$

$$C_a = 345.92 \times .68411 \times \overline{2.502}^{\,2}$$

$$C_a = 1481.4$$

This coefficient, $C_a$, is now the coefficient of a 2.502-inch orifice in a 6.065-inch line, $P_b$, 14.4 pounds, temperature base 520° flowing temperature of 510° and specific gravity 1.00,

$$F_g = \frac{1}{\sqrt{.70}} = 1.1952$$

$$F_{pb} = \frac{14.4}{16.4} = 0.8780$$

$$F_t = \sqrt{\frac{520}{510}} = 1.0098$$

Therefore, the hourly coefficient for the above given conditions is:

$$C_g = 1481.4 \times 1.1952 \times .8780 \times 1.0098$$
$$C_g = 1569.8$$

This coefficient, 1569.8, can now be multiplied by the total hourly extension obtained from an extension book.

**Unit Coefficient**

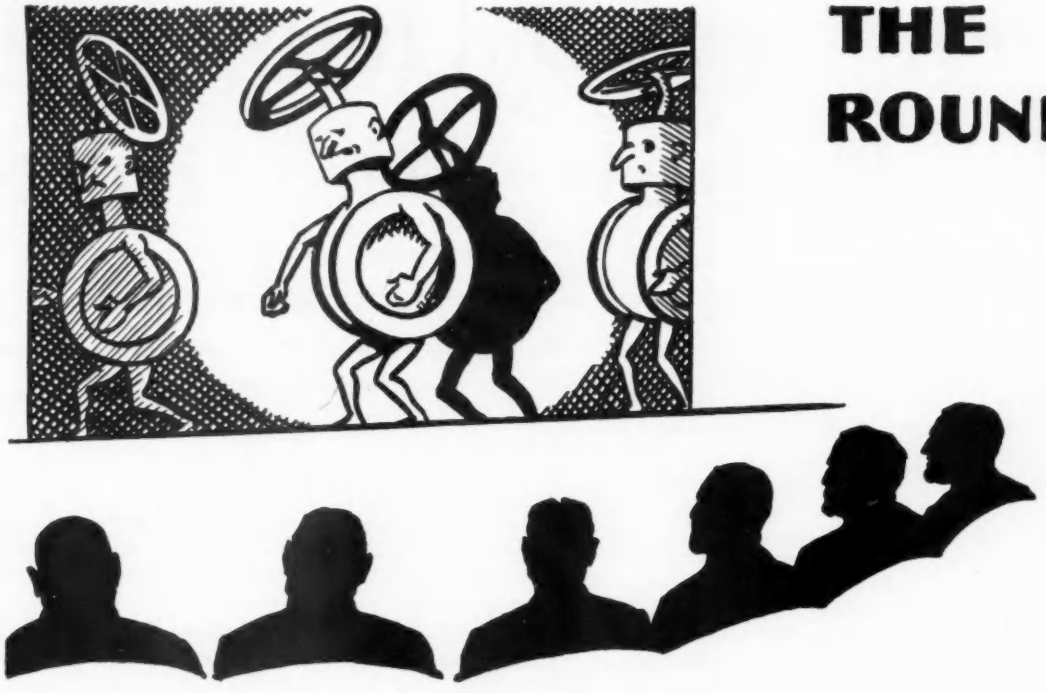
Conditions:

Same as above with 50-inch and 500-pound meter using direct-reading charts,

$$C_a = 1481.4$$
$$M = 1.581$$
$$C_{au} = 1481.4 \times 1.581 = 2342.1$$
$$C_u = 2342.1 \times 1.1952 \times .8780 \times 1.0098$$
$$C_u = 2481.8 \text{ — Unit Hourly Coefficient}$$

This coefficient can now be multiplied by the total of the products of the differential and pressure readings taken from the direct-reading charts without the use of extension books.

In calculating coefficients, the actual dimensions of the meter run and orifice should be used since these two dimensions control the coefficient. The use of the correct measurement bases, of course, also affect the coefficient and must conform to contract, agreement or common practice. In checking line balances, the same measurement bases should obviously be used at all points of measurement to obtain a comprehensive result. The use of correct dimensions and factors and careful operation of orifice meters will result in measurement comparable in accuracy to any commercial measuring device in common use with a minimum of operating expense and a wide range of capacity.



# THE ROUND-UP

Performance economy and low maintenance expense are the watchwords in today's fight to reduce operating costs and increase profits. No cheap products, no inferior supplies are permitted to weaken the economic progress of American industry. Factors retarding the return to normalcy must be permanently wiped out.

Every field man, each operating official must be sure that all equipment under his supervision is rendering a maximum of operating efficiency. High standards of performance are reported from fields where Darling Gate Valves are standard installation. This is no accident for Darling Valves offer greater strength, greater efficiency and greater ease of operation. They cost a little more because they are built a lot better.

***Darling Gate Valves are built in the necessary sizes and designs for Drilling, Well Control, Pipe Lines, Well Flow Lines, Refinery, Power Plant and Compressor Stations.***

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# DARLING

## GATE VALVES

# Industrial Codes and the Purchasing Departments

**W. R. KUBISTA**

***Purchasing Agent, Central States Power & Light Corporation***

IN examining numerous competitive bids on various materials and equipment, purchasing agents have observed what seems to be, were it not a serious matter, almost a ludicrous uniformity of prices. Once, to our relief, the monotony was broken by a low bid, only to have it withdrawn the next day as an error. Industrial codes have taken remarkable effect.

In parallel with this, market analysis, as a purchasing function, appears at this time to be simply a matter of being one jump ahead of constantly rising prices. These increases and changes are so rapid it is often impossible to get accurate quotations. Salesmen use the increasing price theme to pry loose pending orders and usually their predictions come true. Some manufacturers have been accepting 60- and 90-day protection orders in which various terms are offered; some liberal, others not so liberal. Their effect is to stimulate volume purchasing.

These and other exacting demands of manufacturers and jobbers' codes have placed purchasing departments on the spot, so to speak. Not only have they pared down quantity discounts, but also in some cases entirely eliminated them, while the resulting economic conditions are gradually forcing prices upward. Although price is still of first importance, the time for criticism of the price fixing tendencies of industrial codes has not yet arrived, because they have brought considerable business activity out of what appeared to be chaos, and because no one can predict accurately what the results will be. Thus the function of purchasing will now have to include a scope of action that is not exactly new, but rather one that has been perhaps somewhat neglected, viz., scientific purchasing. Whether the equipment and materials are for the power plant, refinery, pipe line or field, will make little difference, for purchasing departments, more than ever before, must arm themselves with scientific facts.

There never was a more opportune time nor urgent need for further standardization. When the depression was snapping at our heels, the boss gave orders to use as much as possible of the old stuff lying in the storeroom and over the property. The watchword was to conserve cash and to use old stocks, some of which were perhaps obsolete. But now that a good deal of the old equipment has been used up and buying resumed, the new material requirements can, and should, be carefully studied and considered. A weather eye out for duplication or overlapping of properties of material will show up items on which stock can be reduced and will be a good step toward setting up tentative standards. Not only will buying materials with just the required qualities cut down stocks, but perhaps also revive certain aspects of competitive bidding. And where the material is being used for manufacturing, standardization will, of course, have the further advantage of uniformity of product.

In setting up standards the various facts and scientific information usually bring to light the possibility of substitutes. That is to say, such materials or equipment as will fill the requirements yet ultimately lower the manufacturing costs. The cost of the substitute itself may be either higher or lower than that of the material then being used, and only study of its properties or possible performance will reveal to some degree the effect on final costs. When it is practical to do so, an experimental trial will usually provide the greatest enlightenment.

Free consultation and cooperation between the operating and purchasing departments is the next logical step toward standardization. It almost goes without saying that no one knows the characteristics and requirements better than the operating men themselves. Even the laborer or operator can contribute important evidence and information that should not be overlooked. As the data are gradually assembled and tentative standards, acceptable to

**EQUIPMENT FAILURE REPORT**
**(For Equipment other than Transformers and Arresters)**

Town_____ State_____ District_____

Name Plate Data of Equipment_____
*(Copy data as given by manufacturer, on the Name Plate)*

Description of Equipment_____
*(Tell how it is used and the condition under which it is operated)*

Cause of Failure_____
*(Tell what happened—load carried—protection now provided and all factors having any bearing on the failure)*

Has Equipment been replaced?_____

Give Name Plate data of Equipment substituted_____

Can equipment be repaired, or should new equipment be ordered?_____

How old is equipment that failed?

Would a different type of equipment better fit the requirements, describe how?_____

Has a system of regular inspection been followed?_____

When was an inspection last made?_____

If to be replaced attach requisition giving full description of equipment so no mistake will be made in ordering.

In case of damage to larger equipment notify office immediately.

# Flowing well hook-ups

## That meet the requirements of careful operators

**GRAY-KEROTEST** is a specialized service organization, cooperating with your engineering and executive departments, in working out safe—flexible and economical, installations of well control equipment, and adopting these to your particular methods of completion and production.

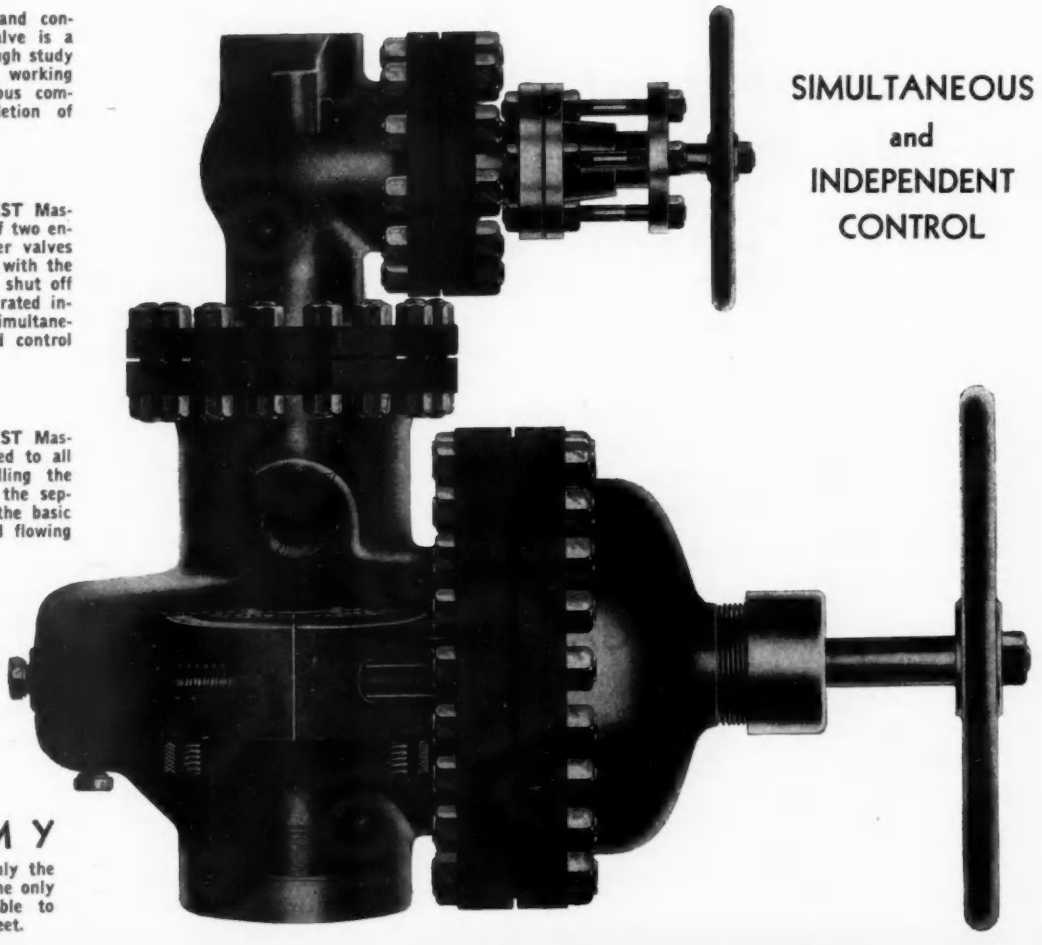
You will save time and money in arriving at your standard by examining and studying the many layouts and methods of complete well hook-ups which we have designed and perfected in cooperation with other engineers who have had and who have solved similar well-flowing problems.

**1** The GRAY-KEROTEST Master Control is built to serve as a combination tubing head and master valve with the tubing in place.

**2** Behind the design and construction of this valve is a background of thorough study based on experience gained working with the field man of various companies in the actual completion of wells.

**3** The GRAY-KEROTEST Master Control consists of two enclosed positive master valves —one to shut off the casing, with the tubing in place—the other to shut off the tubing . . . Either is operated independently of the other or simultaneously—to give safe and rapid control of production.

**4** The GRAY-KEROTEST Master Control is adapted to all operations from drilling the plug to turning the oil into the separator . . . and then forms the basic unit for various types of well flowing hook-ups.



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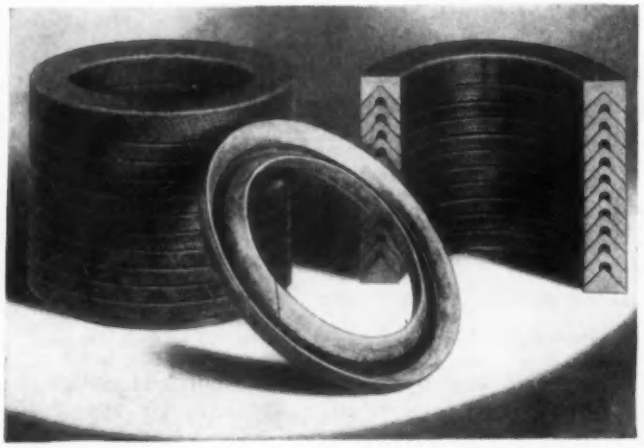

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**If you are not already using Garlock Chevron, try it now. It will save money for you.**

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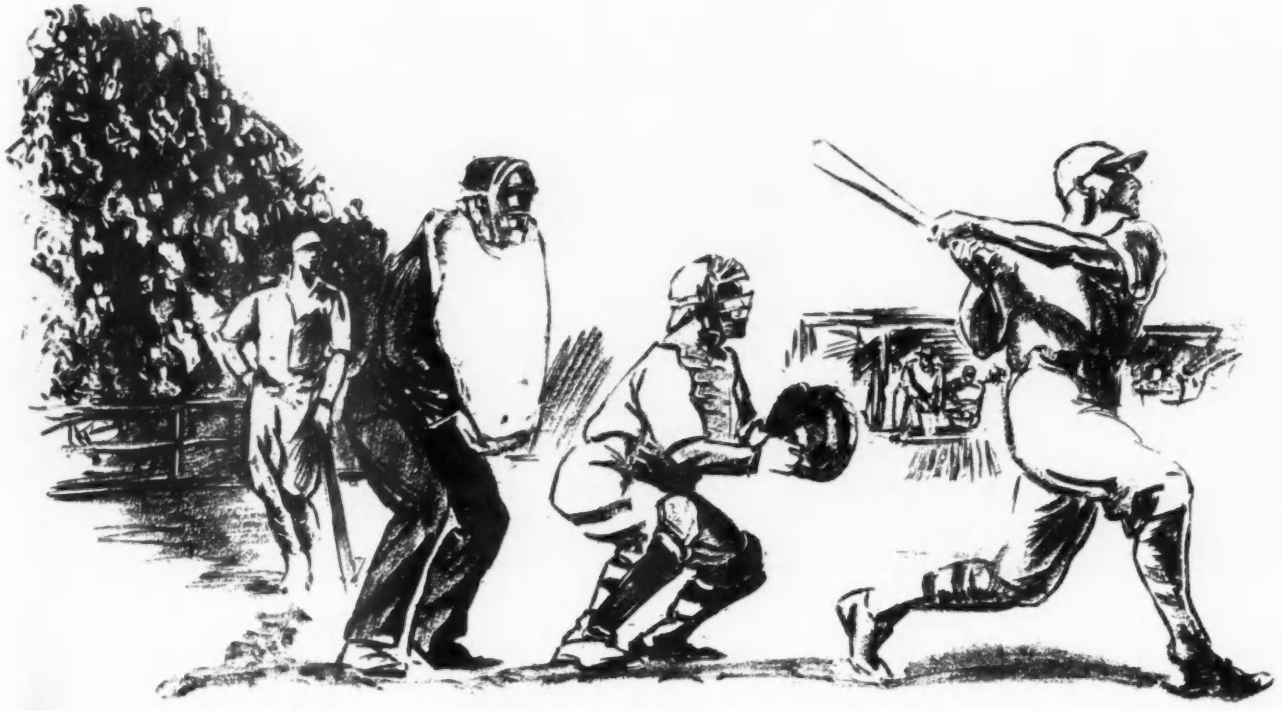
the operating departments, are set up, the purchasing division acquires a foundation on which to carry on buying scientifically with respect to quality and properties. If substitutes are discovered the operating department can cooperate by making studies and tests and by submitting its recommendations.

The actual trial or introduction of substitutes and new materials and equipment presents further problems. Among the many things to be considered are changes in operation and routine as well as the possibility of delays and contingencies, all of which may show the new at disadvantage. Personal prejudice is another difficulty encountered during the introduction of substitutes. It has been the writer's experience to have a material of apparently superior quality fail to produce the expected results in actual operation, because of the prejudice of the employes using it. To resist change appears to be human nature. The time-tried old standby with which they are familiar is preferred, and they will often deliberately misuse a new thing as if to prove its inferiority. Such an attitude can usually be overcome with patience and by supplying tactfully those concerned with full information regarding the advantages and features of the new product. That is to say, they must be won over.

A convenient method of checking up and gathering information on various kinds of equipment with respect to performance is a form of equipment failure report, reproduced herein. It is often used jointly by operating and purchasing departments, and copies accompany requisitions for replacements or new equipment. Such reports may be made more or less elaborate, and properly used will supply pertinent facts concerning equipment that has failed in service. They also furnish a systematic check on conditions causing equipment failures, thereby making it possible to direct efforts toward correcting the condition or using more suitable equipment, as the case may be.

Ultimately, complete information leads to written specifications according to which purchases can be made. Since they have to be clear and concise, it follows that the more complete and accurate the data to work with, the better the specifications. Many depend to a great extent on specifications drawn by the trade societies and government bureaus, but some find them wanting or too generalized to be of any great value. They can, nevertheless, be used as a guide in setting up more suitable ones. Performance, is of course, the most desirable basis of specifications, but it is also the most difficult to apply. But here, again, provided with complete information, performance can be used as a basis with greater ease and certainty. Where performance cannot be used there is the usual method of specifying chemical or physical properties, or when that is impractical, supplying approved samples. However, the basis of performance is the most desirable, because it is less liable to confine manufacturers and suppliers to certain raw materials or laboratory tests of doubtful value.

In conclusion, it seems possible that with definite or even tentative standards to follow, and whenever possible, specifications, the problem of code price fixing can, to a certain degree, be circumvented. Price competition at this time may not be affected to any great extent, but in any event the materials bought will have only those qualities needed and the suppliers will still have enough latitude to furnish something better, if they can, for the same price. Thus, if codes tend to eliminate price competition, purchasers can at least look forward to greater competition in quality.



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He knows it takes team-work of men to complete the wells on time, safely, and at low cost per drilling foot.

It takes team-work of tools, too. Norvell-Wilder Matched Equipment teams well with other equipment.

Make the **NORVELL-WILDER MAN** your regular supply man on your drilling team. You'll find him on his toes ready to cooperate every minute.

## Norvell-Wilder *Supply Company*

# Soviets to Stress Drilling Research

WILLIAM SCHACK

ONE of the major aims of the second Five-Year Plan of Soviet Russia, in so far as the oil industry is concerned, is to develop the turbo-drill until it is efficient enough to be widely applicable. Significant results already have been obtained. Last year, for example, a multi-stage turbo-drill was designed which Russian engineers feel very hopeful about. Not only for deep drilling will this tool be useful, it is thought, but also for wells of average depth. In a Soviet oil periodical in 1931, the engineer, M. Kapelushnikov, who visited the United States a few years ago and cooperated in a series of experiments with American oil companies, pointed out that the chief defect of the turbo-drill was in the wear and tear on the vanes and that this could be overcome. Presumably, the new tool has been strengthened in this respect. Tests made last year at 3000 to 6500 feet indicated the advantages of the turbo-drill, and the Soviet engineers are therefore counting on it to solve deep drilling problems. As yet, only about two percent of the drilling is by this method.

It is pointed out, however, that great strides have been made in both the quantity and quality of drilling since inauguration of the first Five-Year Plan (1928), and in fact ever since nationalization of the industry some years ago. Before that time, the percussion method of drilling was used almost exclusively. The rotary method was tried out, unsuccessfully, in the Grozni fields between 1903 and 1910, and with better results in the Baku district in the next two years. Rapid improvement in the past decade has resulted in almost complete displacement of the older method, as shown in the following table (in percentages of times used):

| Method | 1923-24 | 1928-29 | 1931 | 1933 |
|---|---|---|---|---|
| Percussion . . . | 79 | 19 | 9 | 1 |
| Rotary and turbo . . . | 21 | 81 | 91 | 99 |

At the same time, the speed of rotary drilling per rig-month has also rapidly increased. In 1913, it was 115 feet; in 1925, 185; in 1931, 355; in 1932, 490, and last year, 605. It is claimed that not a few wells have been dug at an average speed of 985 to 1310 feet per rig-month.

There has also been a notable increase in the speed of turbo-drilling, as shown in the following table in feet per rig-month:

| | |
|---|---|
| 1927-28—155 | 1931 —410 |
| 1928-29—205 | 1932 —525 |
| 1929-30—335 | 1933 —860 |

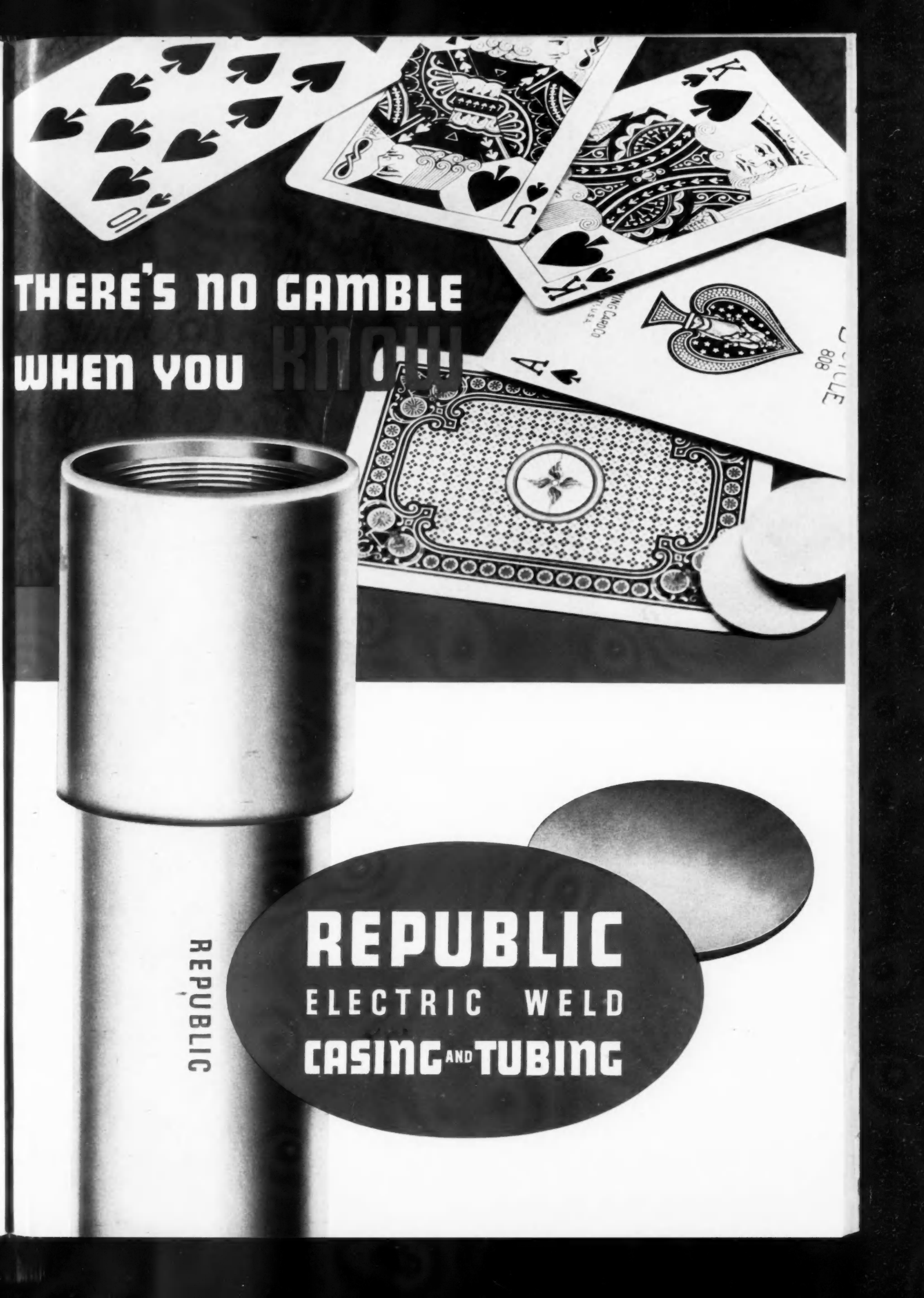
This represents the figures for the "best wells completed."

The accelerated increase in production of the Soviet oil industry has been reported in these pages in a previous article. This has resulted, of course, from a corresponding increase in drilling operations, the official figures for which are as follows (in thousands of feet):

| | | | |
|---|---|---|---|
| 1913 . . . | 879.86 | 1926-7 | 1,252.36 |
| 1920-1 . . . | 19.36 | 1927-8 | 1,188.05 |
| 1921-2 . . . | 62.67 | 1928-9 | 1,463.33 |
| 1922-3 . . . | 228.66 | 1930 | 2,097.54 |
| 1923-4 . . . | 404.22 | 1931 | 2,300.97 |
| 1924-5 . . . | 597.80 | 1932 | 2,438.11 |
| 1925-6 . . . | 944.39 | 1933 | 2,754.07 |
| | | 1934 est. | 4,921.50 |

The table shows that even during the period of civil war and foreign invasion there was some activity and that with restoration of peace and the diminution of fear of foreign powers it increased greatly. In the last few years, extensive drilling operations have been productive enough to place the U. S. S. R. among the foremost factors in the world trade and to assist in the growth of the domestic industrialization process.

The difficulties met with in deep drilling include cavings (at 5000-6500 feet), inflow of hot water under a pressure of 3000 pounds, the influx of gases. Drill-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Records show that nine and one-half million feet of Republic Electric Weld Casing and Tubing has been set by leading producers in all fields during the last three years.

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ing at a depth of 6500-8000 feet was begun in the Soviet fields in 1930. Thus far the deepest well is that at Dossor, in the Emba district of the Urals. This was drilled by the rotary method to below 9300 feet.

In the past four years Soviet engineers have gone to considerable pains to overcome crooked holes, and, according to latest reports, they have now overcome this difficulty, by using automatic feed devices. An automatic drill design by Professor Skorzoff is employed. It is said that the deviation is not more than one half a degree per 100 m., and in automatic drilling often less. Turbo-drilling tests indicate a deviation of not more than one tenth of a degree per 300 feet.

### New Drilling Tools

Following American practice in many ways, and giving due credit for it to American engineers, Soviet oil men also adopted the American practice of facing drilling tools with hard alloys. They began this practice in 1929 and have since applied it widely. Two alloys of Soviet manufacture are now being used for this purpose.

The Soviet Union is also producing its own core drills, as well as rotary disc bits and cutters, which are now being extensively employed, especially in turbo-drilling.

With a few exceptions, gushers are claimed to be under complete control in the U. S. S. R. An official statement declares: "Generally speaking, we have succeeded in mastering the art of gusher control."

A variety of equipment used in connection with high-pressure gushers is being made at home. An insufficient supply of measuring apparatus, however, it is conceded, still hampers production. Recently more modern types of pumps, with long stroke and slow speed, have begun to be introduced, although about 80 percent of the wells are still equipped with the ordinary variety of plunger pumps—electric, pneumatic and hydraulic. Stress is being laid on group drives, as the country's electrification continues.

A system of group operation control devised by a Soviet engineer, Goroyan, is described as follows: "The control is effected by a combination of measuring instruments and light signals which record the state of various stages of the drilling operation: lowering and lifting of the drill, the rates of feed and pressure, the specific gravity of the mud solution, the performance of the slush pump, etc." Further details are not available on the rather cryptic statements that "plans are being made for the actual control of the technological process of the drilling" and "attempts are being made to introduce the principles of television."

At the present writing, a dispatcher system of controlling drilling operations on 25 wells in the Baku district is being installed. Another for the control of 60 wells in Ordzohnikida was previously reported. The general tendency is in the direction of automatic operation wherever possible.

Wildcatting is widely resorted to in the U. S. S. R. In 1932 more than a thousand such wells, of deep-hole variety, were drilled. In these ventures, a system devised by the Soviet geologist, M. V. Nikitin, has been exploited. It is known as the "snizuverkh" (from below upwards) system. By means of it, wells are first drilled to one of the lower layers of the cross-section, the so-called "basic" layer, and the succeeding wells are placed in the upper layers. When the lower stratum is exhausted, it is possible to go over into production in the upper horizons which had been skipped in the beginning.

Nikitin's system is reported to have been applied successfully in Bukhta


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(Bibi-Eibat) and as in process of application in a number of other places: Surakhany, Kara-Kukyhr, the Lenin fields and on the island of Artem. Elsewhere, the hydraulic system for the drilling of one horizon worked out by I. M. Gubkin of the Russian Academy of Science is proving its practicability.

Since all industry in the U. S. S. R. is a government monopoly, planning and control are possible to a degree precluded in a capitalist economy by its very nature, in which free competition prevails. The Soviet oil industry therefore, as is known, comes under such control as well. To what extent this is so is more specifically set forth in an official survey of the industry: "In recent years each pool was worked in accordance with an individual plan, in which, on the basis of the geological findings, calculated reserves and planned actual production, the order in which horizons are to be opened, the order and rate of drilling each one, the number of wells, their design, the system of drilling and production, the general economics and investments in the pool are laid out in advance. The working out of such plans is facilitated in the U. S. S. R. by the highly efficient methods for appraising petroliferous formations and estimating subterranean supplies of oil mathematically and statistically."

## Internal Revenue Bill Now Is Basis for Federal Oil Control

*(Continued from page 10)*

where hot oil was produced, and that would be available to the state attorney general, district attorney, county attorney and the representatives of the Railroad Commission of Texas.

"The answer to this is that the existence of the law and the administration thereof are two entirely different things, and that the Treasury Department will get around to this particular section of the Revenue Act of 1934 as and when, in the orderly process of government as administered by human beings, that due season arrives. This observation is made with all due respect to the Treasury Department and to the Bureau of Internal Revenue and with every sincere regard for the excellent service performed throughout the past by the Bureau of Internal Revenue in its field of federal administration; and the answer would be the same if this administrative matter, or one of a similar nature, devolved upon the Interior Department or the Department of Commerce or any other federal department.

"Therefore, it would seem to be the duty of the industry, who have great interests at stake above and beyond the mere matter of the collection of federal revenue to render every detailed aid and assistance to the Commissioner of Internal Revenue and the Collector of Internal Revenue and all his agents and representatives that are involved in this arduous task in the East Texas oil field, and to get diligently to work upon this matter and to test out the enforcement of this law by federal agents instead of being engaged in legislative activities in behalf of other and different laws.

"Section 605 of the Revenue Act of 1934:

"(1) Imposes a tax of 1/10th of one cent per barrel on crude petroleum refined or processed, to be paid by the refiner or processor; and

"(2) on gasoline produced or recovered from natural gas, to be paid by the person producing or recovering such gasoline;

"(3) every person liable for the tax is required to make monthly returns, under oath, in triplicate, for each plant or refiner;

"(4) such returns shall contain such information and be made at such times and in such manner as the commissioner may by regulations prescribe;

"(5) every refiner or processor shall keep such records as shall be prescribed by regulations, showing daily receipts, stocks and disposals of crude petroleum and the names and addresses of the persons from whom received;

"(6) every person handling, transporting, storing or dealing in any manner in crude petroleum shall keep such records and make such returns with respect to transactions in crude petroleum;

"(7) returns and records required under this section shall be open to inspection by any authorized representative of the commissioner or any agency of the United States (which includes the Petroleum Administrative Board and the Secretary of the Interior, etc.) and by any representative of any state having supervisory or regulatory powers over the production of crude petroleum (which includes representatives of the Texas Railroad Commission).

"As hereinbefore pointed out, the same opportunity exists for the Commissioner of Internal Revenue to prescribe and enforce treasury regulations under Section 605 of the Revenue Act of 1934, as under Section 604; and the Treasury Department is limited only, in its enforcement program, by its intelligent understanding of, and energetic attention to, the producers and refiners already known and identified as notorious violators of production allowables in the East Texas oil field.

"(1) The laws under which the treasruy can function are valid;

"(2) The regulations under which the treasury agents can act are and will be valid;

"(3) The Treasury Department personnel have been carefully selected over a period of years and are tried and tested as to honesty and efficiency.

"The question is:

"Will the industry itself promptly and energentically come to the aid and assistance of the Treasury Department in the formulation and enforcement of the much-needed regulations under the Revenue Act of 1934?

"Will this all-important and necessary work be hindered, hampered or delayed by any one within or without the industry in the expectation that other and different federal laws can or will be enacted by the next Congress because of the ineffective enforcement of existing laws?"

In the discussion that followed it was brought out that in addition to the fines prescribed for failure to make the tax returns, the usual fines and prison sentences for making fraudulent tax returns to the United States government would apply.

It was also pointed out that state enforcement bodies, such as the Texas Railroad Commission would have access to the records which could be introduced as evidence as to the actual amount of oil being produced.

At the present time no special regulations have been adopted on crude oil and gasoline.

## Conroe Land Suit Case to Be Appealed

Austin, Texas.—A receiver has been named for some of the properties of Alpha Petroleum Corporation and others in the Conroe field as a result of a suit brought in a Travis County District Court by the state, seeking to establish title to an alleged vacancy of 680 acres in the field.

The defendants, however, excepted and gave notice of appeal. They filed a supersedeas bond totaling $230,000, and on motion of the defendants the case was continued till the September term of court.

Bonds were required as follows: Alpha Petroleum Corporation, $100,000; South Texas Development Company, $50,000; Hamil and Smith, $40,000; Mortex Oil Corporation, $40,000.

The land in question has seven producing wells, and is in the T&NO Survey No. 13, the patent to which the state alleges is void.

# MARKETS — STATISTICS

*Unsatisfactory East Texas conditions and weak refined market threat to crude prices. Production running above allocations.*

# Weakened Markets Decline to Levels Near Lowest of Year

STAGGERING petroleum product markets grew even weaker during the past week, with wholesale prices slipping dangerously near 1934 lows, retail markets continuing unsteady, and crude price structures none too sure of holding up. The weakness of markets was most pronounced in the Mid-Continent, with surplus gasoline in East Texas the dominant depressing influence.

The outlook was still dark late in the week in so far as prospects of improvement in the East Texas "hot" oil situation were concerned, with that big field estimated as producing around 100,000 barrels of illegal oil above its allowable of somewhat over 500,000 barrels daily. Such unauthorized production, sold in some instances at prices far below the $1 per barrel posted price for East Texas crude, has been largely responsible for the depressed gasoline prices and surplus stocks in the area. The Texas Railroad Commission is not expected to show any material change in effectiveness of its enforcement efforts, and federal agents are still handicapped by litigation testing validity of the oil code.

### Hope of Marketing Agreement

Some hope was generated during the week, however, by the prospect of inauguration of a marketing agreement between independent East Texas refiners and major companies, under sponsorship of the oil code administration. The plan was offered by large companies, and in a meeting at the middle of the week most refiners of the district indicated approval, but as the week drew toward the close they had not given the formal consent to place the program in effect. Under the plan major companies would take surplus gasoline off the market, and then purchase gasoline from the refiners as produced from legal crude and in conformity with oil code administration allocations to refineries, with refiners reporting on their operations to government agencies. The plan is essentially the same as that followed in May, when major company purchases boosted Mid-Continent wholesale gasoline prices to 1934 peak levels. At that time purchases were curtailed eventually when the buyers in some instances found refiners unable to prove their gasoline had been made from legally produced crude.

On the Pacific Coast, where markets had shown sagging tendencies, they took on some firmness last week, when word came out of Washington that federal authorities would approve the marketing plan agreed upon by the western companies, although official sanction was still pending. The California plan is substantially like that contemplated for East Texas.

In the latter part of the past week refinery prices on gasoline in East Texas were down a quarter-cent from a week earlier for all grades, with third grade averaging around 3¼ cents a gallon, middle grade 3⅞ cents, and first grade 4⅛ cents. The 1934 "low" for third grade was around 3 cents the middle of March, and the "high" was reached at 4⅛ cents late in May, when the major company buying of distress gasoline was in progress.

### Oklahoma-Kansas

Oklahoma-Kansas prices last week were in a depressed state comparable with that in East Texas. Group Three quotations, down an eighth cent for all grades from a week previously, were in the latter part of the week averaging around 3¾ cents a gallon for third grade, 4⅛ cents for middle grade, and 4⅝ cents for top grade.

Retail prices continued unsteady in sympathy with the wholesale market weakness. Conditions were particularly bad in parts of Texas, although prices remained fairly firm in other sections of the state, as at Houston, where a 15-cent minimum price, including 5 cents taxes, held. That district has in former times been largely affected by adverse conditions in East Texas, prices last spring having gone down to 10 cents.

Dallas, in Northern Texas, continued last week to have a deplorable retail gasoline market situation. Many of the stations there were selling third grade at 8 cents a gallon, presumably tax paid. One of the larger companies was retailing at 9 cents and taking care of 100 percent leased stations with a 3-cent margin, making the tank wagon only 6 cents, and that included the 5 cents taxes. Most of the other integrated companies in the district went to 10 cents minimum retail a few weeks ago and have stopped at that figure. Fort Worth had a fairly uniform minimum retail posting of 13 cents, meanwhile, and in towns adjacent to the East Texas field third grade was selling at 12 cents in many instances.

**THE OIL WEEKLY**

**Estimated Average Daily Production of Crude Oil, Barrels**

| District or State | Week Ending June 23 | June 16 |
|---|---|---|
| TEXAS— | | |
| Texas Panhandle | 57,000 | 57,000 |
| North Texas | 58,000 | 58,000 |
| West Central Texas | 27,000 | 27,000 |
| West Texas | 144,000 | 143,000 |
| East Central Texas | 52,000 | 52,000 |
| East Texas Field | 503,000 | 499,000 |
| South Texas | 48,000 | 47,500 |
| Texas Gulf Coast | 170,000 | 171,000 |
| Total Texas | 1,059,000 | 1,054,000 |
| OKLAHOMA— | | |
| Oklahoma City | 188,850 | 217,230 |
| Seminole Area | 133,390 | 134,190 |
| Tatums | 6,950 | 6,700 |
| Lucien | 8,700 | 8,190 |
| Others | 192,510 | 190,230 |
| Total Oklahoma | 530,400 | 556,540 |
| KANSAS— | | |
| Ritz-Canton | 14,175 | 13,565 |
| Voshell | 7,520 | 6,945 |
| Nikkel-Hollow | 16,725 | 17,165 |
| Sedgwick | 7,210 | 7,920 |
| Others | 81,720 | 84,680 |
| Total Kansas | 127,350 | 130,725 |
| LOUISIANA— | | |
| North Louisiana | 25,200 | 25,100 |
| Louisiana Gulf Coast | 65,100 | 65,000 |
| Total Louisiana | 90,300 | 90,100 |
| ARKANSAS | 31,000 | 30,525 |
| CALIFORNIA— | | |
| Long Beach | 74,500 | 73,000 |
| Santa Fe Springs | 42,500 | 43,000 |
| Huntington Beach | 52,000 | 47,000 |
| Dominguez | 22,000 | 20,000 |
| Inglewood | 9,500 | 10,000 |
| Ventura Avenue | 27,000 | 26,000 |
| Seal Beach | 7,500 | 8,500 |
| Midway-Sunset | 56,000 | 60,000 |
| Elwood | 11,500 | 11,500 |
| Kettleman Hills | 65,500 | 60,000 |
| Playa del Rey | 8,500 | 9,000 |
| Others | 156,500 | 152,000 |
| Total California | 533,000 | 520,000 |
| MOUNTAIN STATES— | | |
| Wyoming | 35,000 | 35,650 |
| Montana | 8,000 | 8,200 |
| Colorado | 3,000 | 3,000 |
| Total Rocky Mountain States | 46,000 | 46,850 |
| NEW MEXICO | 47,000 | 47,700 |
| EASTERN STATES | 105,000 | 106,000 |
| MICHIGAN | 32,000 | 32,500 |
| Total United States | 2,601,050 | 2,614,990 |

# Reported Production Continues To Exceed Federal Allocation

UNITED STATES crude oil production continued last week, as in most of the rest of June, to exceed the national allowable substantially. The daily average for the week ending June 23 was 2,601,050 barrels daily, down about 14,000 barrels from the previous week's daily output, but still over the federal agency allowable by about 73,000 barrels daily.

The above figures are limited, moreover, to reported production, and do not include "hot" oil, concentrated mostly in East Texas and averaging lately around 100,000 barrels per day.

Texas, California, and Oklahoma, the three leading producing states, were all above their quotas, as was Louisiana; while Kansas stayed within its allocation.

Texas production outside of "hot" oil averaged 1,059,000 barrels daily, or 27,000 barrels more than the federal government allocation to the state, although fairly in line with the state allowable as fixed by the Texas Railroad Commission. It was in "hot" oil, however, that the state's real excess lay, as indicated above.

Oklahoma's output of 530,400 barrels daily for the week of June 23 was down 26,000 barrels from the previous week's figure, but still nearly 20,000 barrels above the allowable. Oklahoma City was responsible for the week's lower figure. The Seminole area produced at about the same rate as the week before.

California production of 533,000 barrels daily for the new week compared with 520,000 barrels per day the week before, and a state allowable of 500,300 barrels. Huntington Beach and Kettleman Hills were among the fields showing important increases for the week of June 23.

Kansas production of 127,350 barrels daily was under the allowable about 3000 barrels. The previous week it had practically coincided with the state quota.

Louisiana continued as during the previous week to exceed its federal agency allocation by about 7000 barrels, averaging 90,300 barrels daily, of which 65,100 barrels came from the coastal section of the state.

## California Awaiting Market Plan Approval

MARKETERS of the West Coast are marking time until the new West Coast marketing plan is given official approval by federal authorities. Announcement has been made that such approval is forthcoming, but in the meantime, it is necessary for the attorney general's department to apply for and secure modification of an injunction against certain California companies issued by a federal court at San Francisco some time ago. Such modification will permit the purchase of surplus gasoline to keep it from being dumped on the market at distress prices.

Executives of leading companies are holding conferences to work out details of the formation of the agency to handle purchases, etc., under the new marketing plan. No one seems to be willing to guess just when the new plan will be placed into full effect, although it is expected it will be in force not later than July 1.

The retail gasoline market had begun to weaken prior to announcement the new plan would be approved, but has shown a tendency to strengthen the past few days. Many fear it will be impossible to force all independents to sell gasoline at exactly the same prices sold by the majors for similar products. Only time will tell.

The strike at West Coast ports is causing some trouble in the operation of tankers. In many instances crews have either gone out on strike or have fled their jobs as a safety first measure. For this reason certain sections are running low on gasoline.

Fuel oil, gas and Diesel oils continue firm and tend to higher prices.

### How Production Compares with Federal Allocation

| | Allocation June | Week Ending June 23[1] Daily Average | | 4 Weeks, June 16[2] Daily Average | |
|---|---|---|---|---|---|
| Arkansas | 33,000 | 31,000 | −2,000 | 30,900 | |
| California | 500,300 | 533,000 | +32,700 | 489,250 | |
| Kansas | 130,300 | 127,350 | −2,950 | 130,600 | |
| Louisiana | 83,000 | 90,300 | +200 | 88,500 | |
| Texas | 1,032,300 | 1,059,000 | +26,700 | 1,043,850 | |
| Oklahoma | 511,700 | 530,400 | +18,700 | 523,350 | |
| New Mexico | 48,000 | 47,000 | −1,000 | 46,500 | |
| Rocky Mountain | 48,000 | 46,000 | −2,000 | 44,100 | |
| Appalachian States | 108,900 | 105,000 | −3,900 | 102,100 | |
| Michigan | 32,800 | 32,000 | −800 | 32,550 | |
| United States | 2,528,300 | 2,601,050 | +72,750 | 2,531,700 | + 72,900[3] |
| Imports crude and fuel oil | | | | 134,500 | |
| Crude to Stills[2] | | | | 2,451,250 | |

[1] Oil Weekly estimate for current week. [2] A. P. I. estimate. [3] Allowable for period was 2,458,800 barrels daily average (12 days May at 2,366,200).

## Imports of Petroleum Products Decline Slightly

IMPORTS of crude and refined oils at principal United States ports for the week ending June 16 totaled 873,000 barrels, or 124,714 barrels daily average, compared with 158,429 barrels daily the previous week and 134,500 barrels daily for the four weeks ended June 16.

The 873,000 barrels included 66,000 barrels received at New York, 91,000 barrels at Philadelphia, and 116,000 barrels at other Atlantic coast ports; and consisted of 621,000 barrels of crude oil and 252,000 barrels of fuel oil.

The above figures include all oil imported, whether for domestic use or in bond for later re-export, but separation in weekly statistics is not available. According to the Bureau of Mines, however, oils imported in bond during the six months ended April 30, 1934, averaged about 20,000 barrels daily.

Receipts of California oil at Atlantic and Gulf Coast ports, crude and refined oils included, for the week ended June 16 totaled 578,000 barrels, a daily

## Crude Runs to Stills; Finished and Unfinished Gasoline; Gas and Fuel Oil Stocks, and Cracked Gasoline Production, Week Ended June 16, 1934

**(Figures in thousands of barrels of 42 gallons each)**

| DISTRICT | Daily Refining Capacity of Plants | | | Crude Runs to Stills | | Stocks of Finished Gasoline | | | (a) Stocks of Unfinished Gasoline | (b) Stocks of Other Motor Fuel | Stocks of Gas and Fuel Oil | Daily Charging Capacity of Cracking Units | | | Cracked Gasoline Production |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Potential Rate | Reporting | | Daily Average | % Operated | At Refineries | Bulk Term., in Trans. & Pipe Lines | Total at Refys., Term., etc. | | | | Potential Rate | Reporting | | Daily Average |
| | | Total | % | | | | | | | | | | Total | % | |
| East Coast | 582 | 582 | 100.0 | 494 | 84.9 | 5,838 | 10,521 | 16,359 | 1,079 | 200 | 7,784 | 496 | 471 | 95.0 | 67 |
| Appalachian | 150 | 140 | 93.3 | 98 | 70.0 | 1,033 | 632 | 1,665 | 316 | 159 | 863 | 69 | 69 | 100.0 | 22 |
| Ind., Ill., Ky. | 446 | 422 | 94.6 | 344 | 81.5 | 5,594 | 2,816 | 8,410 | 1,281 | 47 | 3,061 | 325 | 309 | 95.1 | 90 |
| Okla., Kans., Mo | 461 | 386 | 83.7 | 245 | 63.5 | 3,588 | 1,808 | 5,396 | 743 | 562 | 3,221 | 256 | 238 | 93.0 | 62 |
| Inland Texas | 351 | 167 | 47.6 | 93 | 55.7 | 981 | 110 | 1,091 | 299 | 336 | 1,895 | 82 | 66 | 80.5 | 25 |
| Texas Gulf | 566 | 552 | 97.5 | 452 | 81.9 | 4,151 | 264 | 4,415 | 1,907 | 183 | 6,264 | 358 | 355 | 99.2 | 85 |
| Louisiana Gulf | 168 | 162 | 96.4 | 117 | 72.2 | 626 | 628 | 1,254 | 229 | ..... | 1,279 | 71 | 71 | 100.0 | 21 |
| North La.,—Ark. | 92 | 77 | 83.7 | 56 | 72.7 | 250 | 33 | 283 | 75 | 30 | 460 | 41 | 38 | 92.7 | 10 |
| Rocky Mountain | 96 | 64 | 66.7 | 43 | 67.2 | 1,098 | ..... | 1,098 | 191 | 42 | 642 | 46 | 42 | 91.3 | 11 |
| California | 848 | 822 | 96.9 | 433 | 52.7 | 10,866 | 1,558 | 12,424 | 873 | 2,741 | 78,794 | 209 | 209 | 100.0 | 52 |
| TOTALS WEEK: June 16, 1934 | 3,760 | 3,374 | 89.7 | 2,375 | 70.4 | 34,025 | 18,370 | 52,395 | 6,993 | 4,300 | 104,263 | 1,953 | 1,868 | 95.6 | 445 |
| June 9, 1934 | 3,760 | 3,374 | 89.7 | 2,305 | 68.3 | 34,437 | 18,329 | 52,766 | 6,945 | 4,350 | 103,559 | 1,953 | 1,868 | 95.6 | 432 |

Below are set out estimates of Crude Runs and Cracked Gasoline Production on B. of M. Basis for Week June 16, 1934, compared with June 1933 Bureau figures.

| | | | |
|---|---|---|---|
| Estimate B. of M. Basis June 16, 1934 | 2,535 | | 480 |
| Estimate B. of M. Basis June 9, 1934 | 2,450 | | 455 |
| U. S. B. of M. June 1933: Daily Average Crude Runs | 2,487 | U. S. B. of M. June 1933: Daily Average Cracked Prod. | 529 |

(a) Amount of unfinished gasoline contained in naphtha distillates.
(b) Estimated. Includes unblended Natural Gasoline at refineries and plants; also blanded Motor Fuel at plants.

average of 82,571 barrels compared with 54,429 barrels daily for the week ended June 9 and 74,857 barrels daily for the four weeks ended June 16.

The 578,000 barrels included 70,000 barrels received at Baltimore, 97,000 barrels at New York, 265,000 barrels at Philadelphia, and 146,000 barrels at other Atlantic coast ports; and consisted of 195,000 barrels of gasoline and 383,000 barrels of fuel oil.

## 34 Million Barrels of Finished Gasoline Stored

REPORTS received by the American Petroleum Institute from refining companies owning 89.7 percent of the 3,760,000 barrels estimated daily potential refining capacity of the United States indicate that 2,375,000 barrels of crude oil daily were run to the stills operated by those companies, and that they had in storage at refineries at the end of the week 34,025,000 barrels of finished gasoline, 6,993,000 barrels of unfinished gasoline, and 104,263,000 barrels of gas and fuel oil. Gasoline at bulk terminals, in transit, and in pipe lines amounted to 18,370,000 barrels.

Cracked gasoline production by companies owning 95.6 percent of the potential charging capacity of all cracking units averaged 445,000 barrels daily during the week.

## Artesia Pipe Line to Make Better Market

Artesia, New Mexico.—Construction work has been started by Artesia Pipe Line Company on a 40-mile four-inch crude line to extend from Artesia in an easterly direction to purchase crude in the Artesia, Jackson and Maljamar fields. The latter area is in Eastern Lea County. This line will supply crude on contract to Malco Refineries, Inc., owner of a 1500 barrel capacity refinery at Artesia. The line will have a rated capacity of 4000 barrels daily, and is scheduled to be in operation by July 15.

Artesia Pipe Line Company maintains headquarters in the Magnolia Building, Dallas, Texas, with a branch office at Artesia. The officers include: Ernest M. Closuit, president; T. F. Murchison, vice president; and D. R. Zachary, secretary-treasurer, all of Dallas.

Entrance of this new pipe line into the above fields will stimulate the demand for crude, and operators are planning to step up field work, especially in the Jackson and Maljamar areas. Maljamar Oil & Gas Corporation, Artesia, discovered the field bearing its name, and has five wells on production. Grayburg Oil Company, Artesia, is the largest producer in the Jackson field, having completed Burch 5, C SW NE Section 19-17s-30e, early last month flowing 525 barrels daily through tubing from lime at 3042-3154 feet.

## Cut Bank-Coutts Line

Cut Bank, Mont.—Toronto Pipe Line Company is laying a pipe line from the Cut Bank field to serve the refinery of British American Oil Company, Ltd., at Coutts, Alberta, Canada. Toronto is a subsidiary of British American.

## Texas Pipe Line Regulation Hearing Commences Today

Austin, Texas.—Revision of rules and regulations governing the filing of maps and reports by Texas pipe lines will be taken up at a general pipe line hearing scheduled to begin in Austin, Monday, June 25.

Monthly reports are to be required of all pipe line companies in which they will be required to list detailed information as to the source of all oil handled.

One report much show how much is taken from each lease, together with the lease allowable. Another report must list separately each purchase of oil obtained from other sources than lease connections. A third report will show the amount of oil on hand at the first of the month, the total receipts, the total shipments, and the balance of crude on hand at the end of the period. These reports follow closely the method of reporting now in vogue in East Texas.

In addition, detailed tracings of all pipe lines and pipe line properties must be filed with the commission, with supplementary tracings as additions are made. This information is intended to assist the commission in fixing pipe line rates, by giving them better data upon which to evaluate the properties.

## States Crude Allowable For July Readjusted

Washington, D. C.—Allowable production of crude oil next month will be increased by 2000 barrels a day to a total of 2,530,300 barrels, it was announced June 21 by the Petroleum Administrative Board. The June allowable was 2,528,300 barrels.

In making the quotas for the coming month, the oil administration reduced the output in a number of states, while in only five will July production be increased, Texas being given an additional 9800 barrels, California 9100 barrels, Kansas, 4200, Louisiana, 5900 and Michigan, 400.

The allowable for Oklahoma was reduced by 22,200 barrels because of "prevailing unbalanced conditions between supply and demand brought about by excessive accumulation of crude oil in storage," it was announced. The Petroleum Administrative Board has advised Secretary Ickes that approximately eight million barrels had been put into storage since January 1 by Oklahoma producers.

Other decreases included 1400 barrels for New Mexico, 500 barrels for Montana and Colorado, and 2600 barrels for Wyoming. The allowable for Illinois, Indiana, Kentucky, New York, Ohio, Pennsylvania, West Virginia and Arkansas remain unchanged.

Allocations for July will be as follows: Illinois 12,600, Indiana 2300, Kentucky 13,100, New York 11,700, Ohio 12,900, Pennsylvania 44,000, West Virginia 12,300, Arkansas 33,000, California 509,400, Kansas 134,500, Louisiana 88,900, Michigan 33,200, New Mexico 46,600, Oklahoma 489,500, Texas 1,042,100, Colorado 3000, Montana 8000, Wyoming 33,200 barrels.

# East Texas Refiners Agree to Marketing Plan

Tyler.—Sufficient independent refiners in the East Texas field have pledged their support to a new gasoline marketing program advanced by Howard Bennette, national refining coordinator, to put into effect immediately a plan whereby major companies will purchase surplus gasoline and also current production on a deferred payment plan that assures at least a temporary advance of prices on gasoline.

The refiners, under the agreement, promise not to produce or purchase illegal crude, that has in many instances, heretofore, represented a cost of less than 50 percent of the posted price, in order to obtain this support of the majors. The plant owners also are required to comply with all state and federal regulations, including strict adherence to assigned quotas of monthly throughput of crude.

A huge surplus of gasoline especially the third-grade product has piled up in East Texas in recent weeks, resulting in prices on this commodity dropping to about three cents, then late last week recovering to 3¼ cents. Inability to sell and not the low price served to influence several plant owners into accepting the new marketing plan, as a large portion of their normal market has been taken by price wars. This is noticeably true at Dallas, largest gasoline outlet for the independents, where a retail price from eight to ten cents per gallon has prevailed for some weeks on the low-grade gasoline, with tank wagon prices of the majors ranging from six to nine cents per gallon including a five-cent tax.

East Texas refiners taking part in the marketing plan will sell to majors at the recognized market price from day to day and the purchasers pay 75 percent cash, 12½ percent in 45 days and the remaining 12½ percent in 90 days from date of sale. Refiners failing to live up to contracted observance of state and federal laws forfeit the unpaid amount due should they be detected violating the terms of the contract. Participants are of the opinion that this penalty arrangement will be ample police power to prevent chiseling, while on the other hand there are some that are skeptical of the penalty being adequate to hold some of the alleged violators in line when gasoline prices and a normal market has been restored by the pact.

Jules Constantin, an East Texas refiner and president of the Independent Refiners Association of East Texas worked with Bennette in perfecting the marketing program and was largely instrumental in gaining the support of 38 plant owners representing 85 percent of the throughput capacity in the district.

Indications are that the plan will be tried for at least 30 days. Plants failing to take part may hinder or disrupt the stabilization movement by underselling, but provisions are being made to overcome this probably disturbing element.

## East Texas Crude Oil Purchaser Withdraws Offer

Henderson, Texas.—Mandamus proceedings instituted in District Court here by Niagara Oil Company, owned by D. B. Reed, L. B. Manley et al, against The Texas Pipe Line Company to force the latter to transport 25,000 barrels of East Texas crude to the Texas City refinery of Republic Oil Refining Company, contracted purchaser of the oil, was suddenly terminated June 18 when the latter withdrew its offer to complete the purchase.

L. B. Manley, vice president, notified the court that he owned 49 percent of the company's stock, and that the injunction was filed without his consent. Manley has been a heavy shipper of crude to the Texas Coast via common carrier pipe lines in the past. He also sought to have a receiver appointed by Federal Judge Randolph Bryant at Sherman, alleging mismanagement. The application was denied when each side presented conflicting figures.

## Special Meeting of Engineers Called

Tulsa.—The Mid-Continent Section, American Institute of Mining and Metallurgical Engineers, has called a special meeting at the University Club in Tulsa, on Monday, June 25, at which time Dr. H. T. Mann, head of the department of Petroleum Engineering, Massachusetts Institute of Technology, will speak on the subject, "Petroleum and Prices."

# Crude Oil Price Quotations

**(Figures Represent Basic or Flat Prices—Revised to June 22, 1934)**

| DISTRICT | Low Grav. | Dif. | High Grav. | Date |
|---|---|---|---|---|
| **Oklahoma-Kansas** | 28—$ .84 | 2¢ | 40—$1.08 | 9-29-33 |
| **N. and N.-C. Texas** | 28— .79 | 2¢ | 40— 1.03 | 9-29-33 |
| **Texas Panhandle** | | | | |
| Gray County | 34— .79 | 2¢ | 40— .91 | 9-29-33 |
| Carson-Hutchinson | 34— .69 | 2¢ | 40— .81 | 9-29-33 |
| **West Texas** | | | | |
| Ector, Pecos, Wk'lr | * 75 | | | 9-29-33 |
| Crane, Upton, Howard and Glasscock | * 70 | | | 9-29-33 |
| **East Texas** | *1 00 | | | 9-29-33 |
| **Texas Gulf Coast** | | | | |
| Conroe | 35— 1 09 | 2¢ | 40— 1.19 | 9-29-33 |
| Tomball | *1.15 | | | 9-29-33 |
| Cleveland | *1 00 | | | 1-11-34 |
| †Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake, Spindletop, Sugarland, West Columbia. Humble, Rabbs Ridge | Below 20— .82 | 2¢ | 34— 1 12 | 9-29-33 |
| **South and SW Texas** | Below | | | |
| Refugio (Light) | 20— .82 | 2¢ | 34— 1 12 | 9-29-33 |
| Refugio (Heavy) | * 85 | | | 9-29-33 |
| Saxet | * 85 | | | 9-29-33 |
| Mirando | * 80 | | | 9-29-33 |
| Pettus | *1 05 | | | 9-29-33 |
| Salt Flat | * 87 | | | 9-29-33 |
| Darst Creek | * 87 | | | 9-29-33 |
| **Arkansas** | | | | |
| El Dorado (Light) and Rainbow | 29— 79 | 2¢ | 40— 1 03 | 3-17-34 |
| Eldorado East Field and Smackover | * 70 | | | 9-29-33 |
| **North Louisiana** | 29— .79 | 2¢ | 40— 1.08 | 9-29-33 |
| Urania | *.85-*.87 | | | 1- 1-34 |
| **South Louisiana** | Below | | | |
| Lockport | 20— 80 | 2¢ | 34— 1.10 | 9-29-33 |
| Iowa, Cameron Mds. | Below 20— .70 | 2¢ | 34— 1.00 | 9-29-33 |
| **Rocky Mountain States** | | | | |
| Salt Creek | 29— .84 | 2¢ | 40— 1.08 | 9-29-33 |

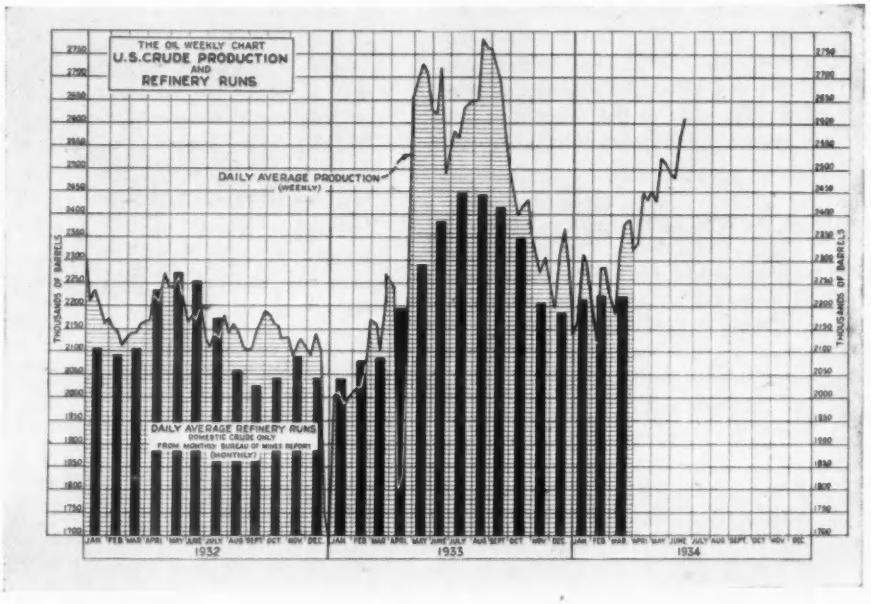
*All gravities—flat rate.
†Gulf Coast prices as posted by Humble Oil & Refining Company.

| DISTRICT | Low Grav. | Dif. | High Grav. | Date |
|---|---|---|---|---|
| Elk Basin | $*1.17 | | | 9-29-33 |
| Grass Creek (Light) | *1.17 | | | 9-29-33 |
| Big Muddy | *1 01 | | | 9-29-33 |
| Rock Creek | *1 02 | | | 9-29-33 |
| Sunburst | *1.35 | | | 9-29-33 |
| Lance Creek | *1.02 | | | 8-25-33 |
| Osage | * 62 | | | 8-25-33 |
| Cat Creek | * .45 | | | 8-25-33 |
| Pondera | * .65 | | | 8-25-33 |
| Hog Back, N.M. | *1.00 | | | 9- 8-33 |
| Lea County, N. M. | * .75 | | | 9-29-33 |
| **Mid-West States** | | | | |
| Lima | *1 30 | | | 9-29-33 |
| Illinois | *1.13 | | | 1- 5-34 |
| Princeton | *1.13 | | | 1- 5-34 |
| Western Kentucky | *1.17 | | | 9-29-33 |
| **California** | | | | |
| Signal Hill | 14— .65 | 1¢ | 16—$ .66 | 9- 6-33 |
| | 17— .69 | 2¢ | 22— .84 | 9- 6-33 |
| | 23— .88 | 3¢ | 30— 1.09 | 9- 6-33 |
| Seal B.,Alamitos Hts. | 19— .65 | 3¢ | 20— .68 | 9- 6-33 |
| | 21— .72 | 4¢ | 22— .76 | 9- 6-33 |
| | 23— .81 | 4¢ | 26— .93 | 9- 6-33 |
| | 27— .98 | 4¢ | 30— 1.10 | 9- 6-33 |
| Huntington Beach | 14— .65 | 4¢ | 15— .69 | 9- 6-33 |
| | 16— .72 | 3¢ | 19— .81 | 9- 6-33 |
| | 20— .83 | 3¢ | 28— 1.07 | 9- 6-33 |
| | 29— 1.09 | 3¢ | 30— 1.12 | 9- 6-33 |
| Inglewood | 14— .65 | 4¢ | 16— .73 | 9- 6-33 |
| | 17— .76 | 4¢ | 18— .80 | 9- 6-33 |
| | 19— .83 | 4¢ | 20— .87 | 9- 6-33 |
| | 21— .90 | 4¢ | 22— .94 | 9- 6-33 |
| | 23— .97 | 4¢ | 24— 1.01 | 9- 6-33 |
| Playa del Rey | 14— .65 | 1¢ | 15— .66 | 9- 6-33 |
| | 16— .69 | 4¢ | 17— .73 | 9- 6-33 |
| | 18— .76 | 4¢ | 19— .80 | 9- 6-33 |
| | 20— .83 | 4¢ | 21— .87 | 9- 6-33 |
| | 22— .90 | 4¢ | 23— .94 | 9- 6-33 |
| | 24— .97 | 3¢ | 25— 1.00 | 9- 6-33 |
| | | | 26— 1.04 | 9- 6-33 |
| Olinda-Brea Canyon | 14— .65 | 4¢ | 16— .73 | 9- 6-33 |
| | 17— .76 | 3¢ | 28— 1.10 | 9- 6-33 |
| Athens-Rosecrans | | | | |
| Domingues | 23— .83 | 3¢ | 24— .86 | 9- 6-33 |
| | 25— .90 | 4¢ | 26— .94 | 9- 6-33 |
| | 27— .97 | 3¢ | 29— 1.04 | 9- 6-33 |
| | 30— 1 08 | 4¢ | 31— 1.12 | 9- 6-33 |
| | | | 32— 1 15 | 9- 6-33 |
| Elwood (fob ship) | 33— 1 03 | 3¢ | 37— 1.15 | 9- 6-33 |
| Torrance | 14— .65 | 1¢ | 15— .66 | 9- 6-33 |
| | 16— .69 | 3¢ | 20— .81 | 9- 6-33 |
| | 21— .83 | 3¢ | 26— .98 | 9- 6-33 |

*All gravities—flat rate.

| DISTRICT | Low Grav. | Dif. | High Grav. | Date |
|---|---|---|---|---|
| Richfield | 15—$ .65 | 2¢ | 16—$ .67 | 9- 6-33 |
| | 17— 70 | 4¢ | 20— 82 | 9- 6-33 |
| | 21— .85 | 4¢ | 22— .89 | 9- 6-33 |
| | 23— .93 | 4¢ | 24— .97 | 9- 6-33 |
| | 25— 1.00 | 4¢ | 27— 1 08 | 9- 6-33 |
| | 28— 1 11 | 4¢ | 29— 1 15 | 9- 6-33 |
| Whittier-LaHabra | 15— 65 | 3¢ | 18— .74 | 9- 6-33 |
| | 19— 78 | 3¢ | 24— .93 | 9- 6-33 |
| Montebello | 19— 65 | 1¢ | 20— .66 | 9- 6-33 |
| | 21— 69 | 3¢ | 22— .72 | 9- 6-33 |
| | 23— 76 | 4¢ | 24— .80 | 9- 6-33 |
| | 25— 85 | 4¢ | 26— 89 | 9- 6-33 |
| Coyote Hills | 16— 65 | 3¢ | 19— .74 | 9- 6-33 |
| | 20— 78 | 3¢ | 29— 1.05 | 9- 6-33 |
| | 30— 1.09 | 3¢ | 34— 1.21 | 9- 6-33 |
| Santa Fe Springs | 21— .72 | 4¢ | 22— .76 | 9- 6-33 |
| | 23— 79 | 4¢ | 25— .87 | 9- 6-33 |
| | 26— .90 | 4¢ | 28— .98 | 9- 6-33 |
| | 29— 1.01 | 4¢ | 30— 1.05 | 9- 6-33 |
| | 31— 1.08 | 4¢ | 33— 1 16 | 9- 6-33 |
| | 34— 1.19 | 4¢ | 35— 1.23 | 9- 6-33 |
| | 36— 1.26 | 4¢ | 38— 1 34 | 9- 6-33 |
| New Hall, McKittrick, Kern River | 14— .57 | | 19— .57 | 9- 6-33 |
| Midway Sunset, Elk Hills,Buena Vista Hills | 17— .57 | 4¢ | 18— .61 | 9- 6-33 |
| | 19— 64 | 3¢ | 22— .73 | 9- 6-33 |
| | 23— 77 | 4¢ | 33— 1.17 | 9- 6-33 |
| Lost Hills | 17— .57 | 4¢ | 21— .73 | 9- 6-33 |
| | 22— .76 | 3¢ | 30— 1.00 | 9- 6-33 |
| Coalinga | 17— .57 | 1¢ | 18— .58 | 9- 6-33 |
| | 19— 62 | 3¢ | 21— 68 | 9- 6-33 |
| | 22— .72 | 3¢ | 25— .81 | 9- 6-33 |
| Wheeler Ridge | 17— .57 | 1¢ | 18— .58 | 9- 6-33 |
| | 19— 61 | 3¢ | 25— .79 | 9- 6-33 |
| Kettleman Hills | 33— 93 | 3¢ | 39— 1 11 | 9- 3-33 |
| **Pennsylvania** | | | | |
| Bradford | *2 25 | | | 4- 1-34 |
| Sw Pa., Pipe Line | *2 22 | | | 4- 1-34 |
| Eureka Pipe Line | *2 17 | | | 4- 1-34 |
| Buckeye Pipe Line | *2 07 | | | 4- 1-34 |
| Corning Grade | *1 20 | | | 9-11-33 |
| **Michigan** | | | | |
| Central Michigan | *1.20 | | | 9-30-33 |
| Muskegon | *.70-1.00 | | | 12-31-32 |
| **Canada** | | | | |
| Petrolia | *2 10 | | | 9- 9-33 |
| Oil Springs | *2 17 | | | 9- 9-33 |

*All gravities—flat rate.




## MAJOR PRICE CHANGES

| | Penna. (Nat. Tr.) | Mid-Cont. (36 Gr.) | Calif. (26 Gr.) |
|---|---|---|---|
| Mar. 5, 1933 | ..... | ..... | Cut 24c |
| May 2, 1933 | ..... | Cut 19c | ..... |
| May 9, 1933 | Cut 20c | ..... | ..... |
| May 22, 1933 | Up 10c | ..... | ..... |
| June 19, 1933 | Up 10c | Up 19c | ..... |
| June 26, 1933 | Up 10c | ..... | Up 9-12 |
| July 6, 1933 | Up 13c | Up 10c | ..... |
| July 17, 1933 | Up 15c | ..... | ..... |
| July 28, 1933 | Up 15c | ..... | ..... |
| Aug. 11, 1933 | Up 10c | ..... | ..... |
| Aug. 24, 1933 | ..... | Up 10c | ..... |
| Aug. 30, 1933 | Up 15c | ..... | ..... |
| Sept. 6, 1933 | Up 10c | Up 10c | Up 15c |
| Sept. 8, 1933 | ..... | Up 15c | ..... |
| May 1, 1934 | Up 10c | ..... | ..... |

## CRUDE PRODUCTION TAXES

Oklahoma—Three percent of gross value less royalty interest.

Texas—Two cents or 2 percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Three percent of gross value at well and ½-cent per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

# MEN IN THE INDUSTRY'S NEWS

**JOHN H. LANGSTON,** chief scout for Sun Oil Company, Dallas, suffered a relapse from an old operation and has been ordered by his physician to undergo treatment that will necessitate his absence from the job for several weeks. C. C. Pope, scout and land man for the company in West Texas, has been temporarily moved to Dallas to pinch hit for Langston.

**HENRY NETHING,** for the past several years field superintendent in the McPherson district for Stanolind Oil & Gas Company, has been transferred to the Ellinwood area and is now superintendent for the Ellinwood and Hilger areas. He is succeeded at McPherson by Henry Whitstone, formerly superintendent in the El Dorado district of the company.

**GORDON GRIFFIN,** newly appointed chief petroleum engineer for the Texas Railroad Commission, has assumed his duties and has begun a study of the East Texas field to be presented at the statewide proration hearing set for June 26 at Austin.

Griffin graduated from Texas Christian University in 1929 and was employed by Standard Oil Company of California. He was the commission's engineer in charge of operations in East Texas for more than a year, and resigned from this position to go into consulting work.

He succeeds W. F. Knode, who was petroleum engineer for the commission for the past three years. Knode recently resigned to enter the consulting field. He has offices in Corpus Christi.

**B. W. WEBB** recently was appointed chief statistician for the production and engineering department of Lago Petroleum Corporation at Maracaibo, Venezuela

**V. L. RAWLE,** Standard Oil Company (New Jersey), has been assigned to the production engineering office in Maracaibo, Venezuela.

**MALCOLM S. McCORQUODALE,** assistant United States attorney at Houston for the past five years, has been appointed counsel for the Petroleum Administrative Board and will have headquarters at Tyler. In his new capacity Mr. McCorquodale will be associated closely with Charles I. Francis, special assistant of the United States attorney general in advising the federal administrative board in the East Texas field.

**E. H. SALRIN,** vice president of Tide Water Oil Company, Tulsa, left Houston Wednesday of last week to spend a few days in Tulsa. He is returning to Houston the first part of this week.

**PAUL L. APPLIN,** Fort Worth consulting geologist, accompanied by his wife, who is widely known as a paleontologist, departed recently for Keene, New Hampshire, birthplace of the former, to spend the summer.

**H. T. ASHTON** of St. Louis, president of Lubrite Refining Corporation, has been appointed chairman of the newly created labor sub-committee for Region 3, petroleum code administration, according to an announcement by E. J. Bullock, general chairman of the regional code organization. Mr. Ashton's nomination has been approved by Harold L. Ickes, secretary of the interior and petroleum code administrator.

Mr. Ashton has taken a prominent part in the oil industry's work on labor problems. He is chairman of the oil companies' committee that successfully handled a strike of service station men in St. Louis recently and has had extensive experience otherwise in active dealing with labor questions in all branches of the industry.

**A. M. "ALEC" CROWELL,** gas engineer, recently joined the staff of the Texas Railroad Commission in the Panhandle district where he will work under J. M. McDonald, deputy supervisor, in handling gas and refineries.

Crowell is well known in natural gas and gasoline circles, both in the Mid-Continent and West Coast, having spent several years with The Empire Companies and General Petroleum Corporation. He came to the commission from Shamrock Oil and Gas Company, Amarillo.

**PAUL A. WALKER,** chairman of the Oklahoma Corporation Commission, has been recommended for appointment on the new federal commission which will administer the communications bill passed by the recent session of Congress. Walker was at one time mentioned for appointment as a member of the interstate commerce commission.

**HERBERT SKIDMORE** of the credit department of Phillips Petroleum Company has been transferred from Bartlesville to Kansas City, Missouri, where he becomes assistant credit manager.

**HERMAN P. TAUBMAN** is back at his office after an operation for appendicitis and a stay in the hospital in Tulsa.

**EDWARD L. JILLSON,** 41, well known independent operator, died at his home in Tulsa on Monday, June 19, following a lingering illness which had lasted more than nine months. Death was caused by Hodgkin's disease. He was born on June 8, 1893, at Syracuse, New York, and graduated from Syracuse University in 1916. Jillson followed two brothers to Oklahoma shortly after graduation and all were engaged in the oil business. When the United States entered the World War he enlisted in the marines and was stationed at Mare Island. After his discharge he returned to Oklahoma and for six years made his residence at Okmulgee. He was founder and president of National Investors Oil Company and had resided in Tulsa for the past eight years.

**GEORGE W. SNEDDEN,** 48 years old, vice president and manager for British-American Oil Producing Company and an official in several other oil companies, died at his home, Tulsa, June 18. He had been in ill health for the past two years and had recently returned from Florida, apparently much improved. He was born in Antrim, Pennsylvania, and when 16 years of age went to Walsenburg, Colorado. After spending a few years there he came to Sapulpa in 1906 and became associated with Laurel Oil & Gas Company. Later he was with Sapulpa Refining Company.

Snedden first took up permanent residence in Tulsa in 1917 when he decided to strike out for himself as an independent operator. He subsequently became an official of Western Oil Corporation and in 1923 assisted in organization of Lorraine Petroleum Company. The latter was merged with Interocean Oil Company, which firm was recently merged with the British-American company. At the time of his death he was serving as vice president and general manager of British-American Oil Producing Company, president of Arrow Drilling Company, vice president and general manager of Toronto Pipe Line Company, president of Jackson-Wise and Snedden, president of Producers Oil Corporation and vice president of Western Oil Corporation. He was also senior director of the First National Bank of Tulsa.

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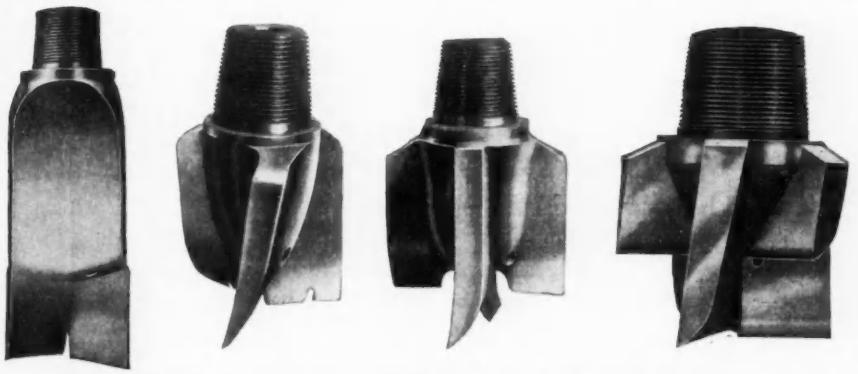

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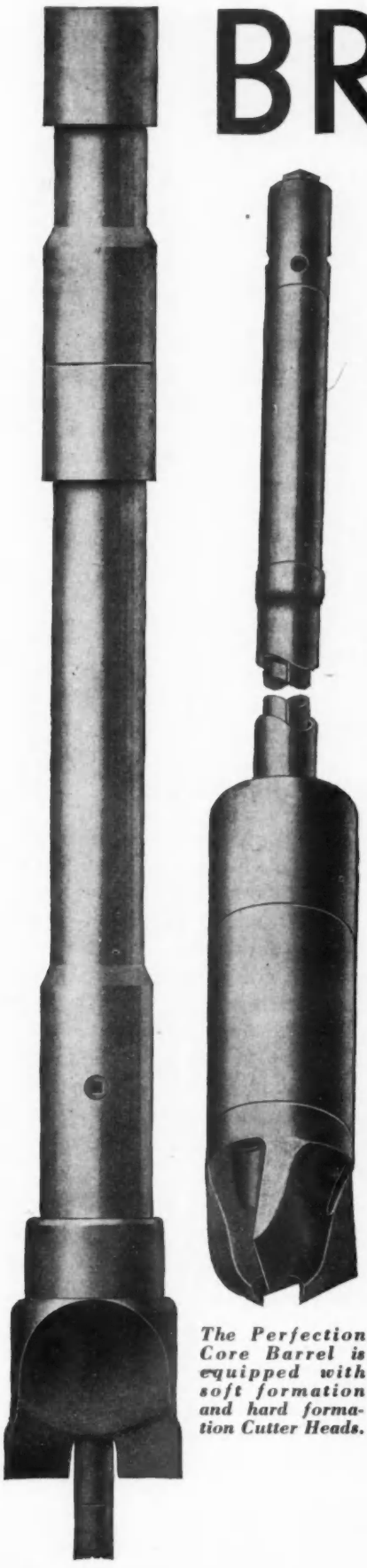

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## Oil Bill Dead, But Issue Still Alive

*(Continued from page 14)*

### *Industry Efforts Offer Hope*

While governmental developments and activities with their inauspicious implications tended to dominate the oil picture last week, some evidence materialized to show that the industry's fate is after all not entirely dependent on what the governmental agencies do, threaten to do, or fail to do.

In East Texas, seat of the past month's gasoline price weakening, something was actually attempted within the industry in the hope of bettering gasoline prices and saving present crude price structures. There has been so much leaning on state and federal governments lately, and so little shouldering of responsibilities by the oil industry itself, that the East Texas effort is encouraging, regardless of how successful or unsuccessful it may prove.

### *East Texas Marketing Plan*

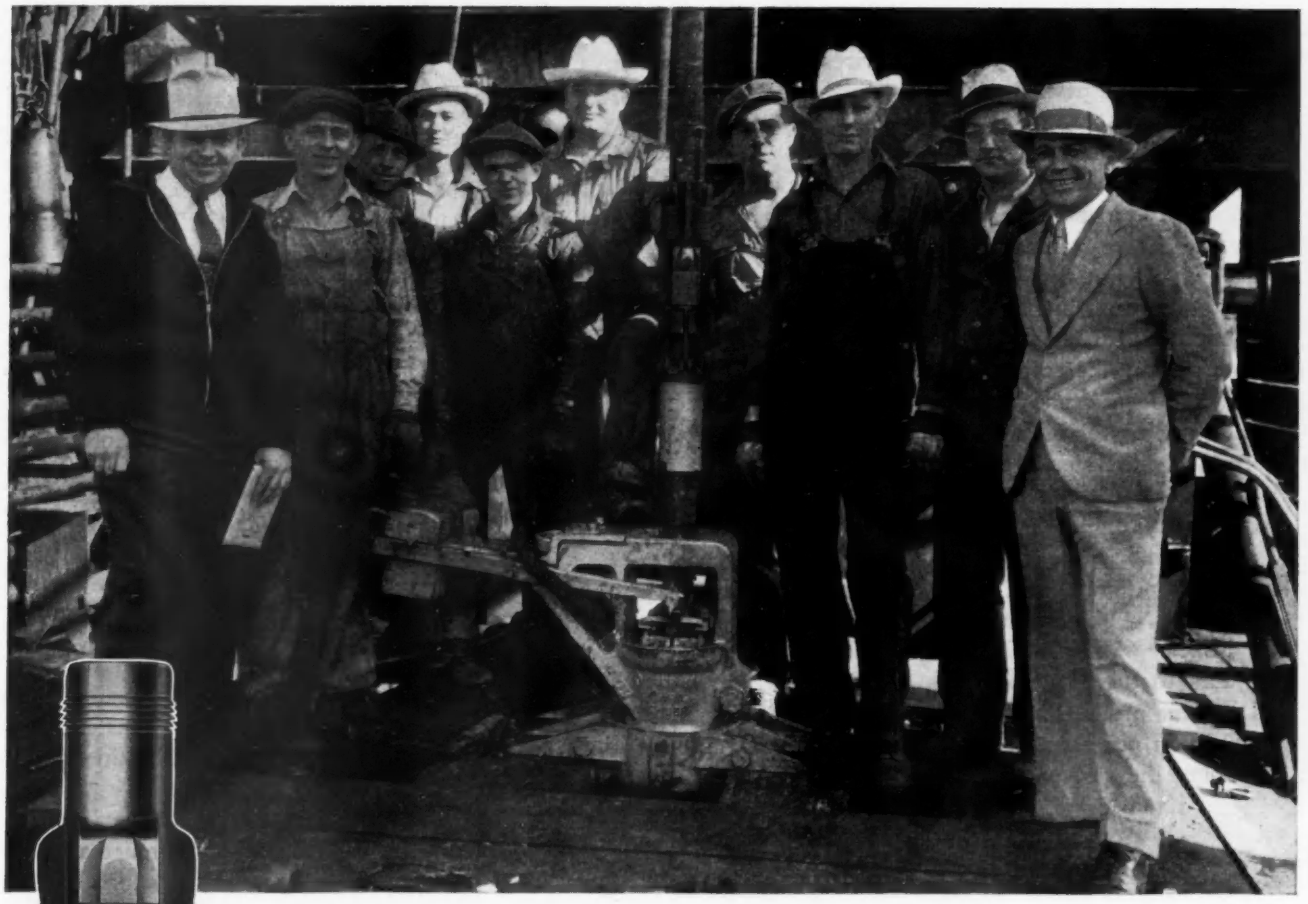
The light of hope which appeared in East Texas and gave promise of improving Mid-Continent gasoline prices was the marketing agreement which independent refiners of the district contemplated entering into with integrated companies, under sponsorship of the oil code administration.

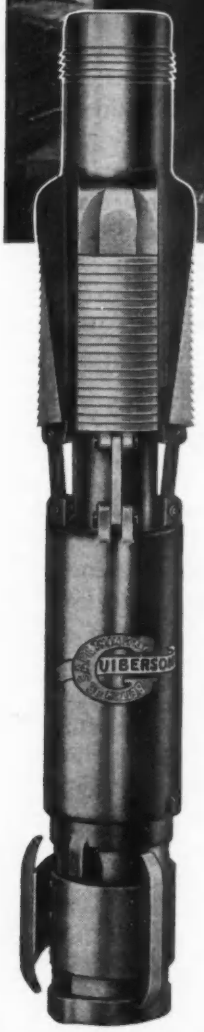
If the plan is finally adopted, major companies will purchase existing distress gasoline from East Texas refiners, while the latter will agree to refine only legal crude in the future and to comply with gasoline production allocations fixed by the oil code administration.

The plan appeared to be acceptable to most of the refiners of the district, snce it offered about the only hope for betterment of existing depressed gasoline prices. It was satisfactory to the big companies, which had in fact fostered it, since it offered some assurance that contemplated wiping out of distress gasoline would not be followed immediately by the building up of another surplus.

### *Program Raised Prices in May*

Possible importance of the proposed East Texas plan is indicated in the market reaction during May to essentially the same plan. At that time integrated companies made large purchases of Mid-Continent distress gasoline. The oil code administration had recommended the purchases in lieu of the pooling agreement, which has been signed by oil companies but which had been held up by Department of Justice objections. Stimulated by the purchases, wholesale gasoline prices in East Texas and the rest of the Mid-Continent jumped to the highest levels of 1934. But then the buying began tapering off, when prospective purchasers found some refiners unable to prove their gasoline had been



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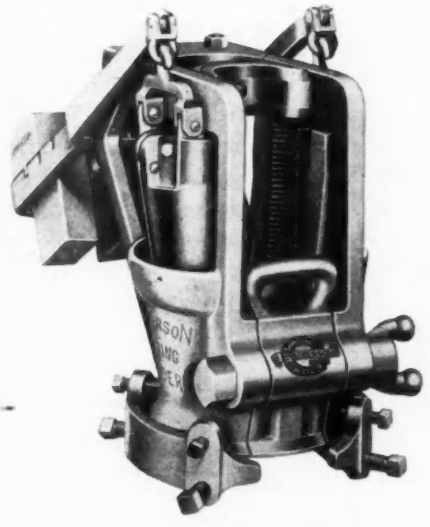

**The Guiberson "Type E" Swab, and "Type E" Tubing Catcher, Duplex Tubing Catcher, and Tubing Spider were used on this well.**

**The extensive use of Guiberson equipment on this deep well is convincing evidence of the knowledge and experience incorporated in the positive safety features of Guiberson Tools.**

**In the photo, left to right are shown: J. C. Owen, Guiberson representative; Leo Bower, Norman Trout, Bill Postman, E. W. Humphrey, Bill Henson, driller, Garland Davis, Noel Black, Murray J. Wells, geologist, H. R. Standlee, Guiberson representative.**


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made from legally produced crude. With "hot" oil plentiful, moreover, such gasoline kept coming onto the market. Within a a month prices have dropped from the year's peak levels almost to the 1934 "lows." The existing stocks of "hot" gasoline were an obstacle which wrecked the program in its take-off.

Under the plan now contemplated, however, hope is held out for a more successful start. It is proposed that the larger companies will purchase all distress gasoline, without delving into its possibilities of being "hot," thus providing a clear field for a beginning. It is proposed further that they will purchase current production of the refineries, with such output coming only from legal crude and complying with plant allocations fixed by the oil administration.

Assuring the small refiners adequate legal crude at going prices, there is a provision that the major companies will supply them up to given amounts, if desired. Binding the refiners, on the other hand, to above-board operations, is the requirement that they file reports with the code authorities and the Bureau of Mines. And finally, to guarantee adherence of refiners to the agreement, is the provision that only 75 percent of the total price for distress gasoline will be paid on purchase, with 12½ percent coming in 45 days and the rest within 90 days.

### *Grounds for Doubt*

There is ample basis, of course, for looking upon the East Texas plan with skepticism. For East Texas refiners have among them some plant owners whose businesses have been built on the foundation of "hot" oil and quick profits, and who can hardly be expected to settle down complacently to legitimate operations and smaller and slower profits.

But strong incentive for turning honest has been furnished by the recently depressed prices, which have left but small profits, if any, even for those processing "hot" crude bought at sub-posted prices. Even if there are some among the refiners who will insist upon continuation of the old order, moreover, they will be in greater danger of being singled out and detected in event of general acceptance of the marketing agreement.

### *Prices Near Year's Lowest*

As efforts were being made late last week toward inauguration of the East Texas agreement, wholesale gasoline prices in the area were only about a quarter-cent a gallon above the year's lowest for all three grades, and Oklahoma-Kansas refinery prices were similarly depressed. The market had been steadily losing ground for a whole month. Late in the week the East Texas prices were a quarter-cent lower than a week earlier for all grades. Third grade was averaging 3¼ cents a gallon, middle grade 3⅞ cents, and first grade 4⅛ cents. For Group Three, prices were down an eighth, compared with a week earlier, averaging 3¾ cents for third grade, 4⅜ cents for middle grade, and 4⅝ cents for the top grade.

### *Retail Prices Unsteady*

Along with declining Mid-Continent wholesale gasoline prices has gone unsteadiness of service station prices, with postings in Northern Texas dropping as low as eight cents a gallon, including five cents taxes. That was the price posted on third grade by some stations in Dallas, while others there were selling at prices ranging to 10 cents. Adjacent to the East Texas field postings as low as 12 cents were common. In other parts of Texas, however, prices were holding fairly firm, including 15 cents for Houston, which had its 10-cent gasoline last March, when a previous surfeit of gasoline prevailed in East Texas.

### *California Agreement Pending*

Similar to the marketing plan proposed for East Texas is that agreed on by California companies but not yet in effect, pending approval by federal authorities. It has been indicated in Washington that such approval is forthcoming, although some details remain yet to be worked out; and this advice has bolstered the Pacific Coast gasoline market. While the California plan proposes to stabilize the markets by providing for purchases of distress gasoline, it also carries a provision which some believe may defeat it in actual operation. That provision is for selling of products at identical prices by both majors and independents. It is doubted if the independents can be successfully held to maintenance of the same prices as the majors.

## The Changing Panorama

(*Continued from page 6*)

again just before the connection was discovered. The man who is alleged to have welded the connection is said to have admitted the job, saying that he was paid $15 for doing it but that "that is the night rate of pay for welders." He was not sure as to just who employed him, saying that he only knew his first name.

A new device for locating by-passes and connections in lines has just been brought into play in the field. The company which first used it found a tapped connection on its line within 20 minutes of the time it started looking. The matter was reported to the federal authorities and since that time the device has been in use by federal authorities in locating by-passes and tapped connections.

Reports that pay of refinery workers in some East Texas plants is going up because of the hazard involved are current. "If some oil company took a notion to pump water instead of cement into such a line it would just be too bad for anybody working around the stills running the oil," one person said. "Such risk is worth a lot of anybody's money."

# Cockfield Sand Production Important to Raccoon Bend

Houston. — Recent development of commercial oil production in the Cockfield horizon has considerably enhanced the possibilities of the Raccoon Bend field, Austin County. Heretofore, the field has produced commercial oil only from the Jackson sands found around 3500 feet. Should the Cockfield formation prove prolific, the field will become one of the leading potential crude reserves of the Gulf Coast region.

There has been only one Cockfield producer in the field to date, but several wells are due to test the formation immediately. Humble Oil & Refining Company's Thompson 13, direct offset to Sherrod 5, topped Cockfield at 3830 feet and is coring ahead. Rammert B-2, 1000 feet east of Zeiske 1, and an east edge test, topped the formation at 3900 feet and is drilling at 4142 feet. Should these wells produce from this formation it will make the third important sand uncovered in this field.

Should Cockfield sand at Raccoon Bend prove prolific, it is likely the field will be second to Conroe. It is true that the Tomball field of Harris County, is large in area, but the oil horizon is small compared to that of Conroe, for this reason, the Austin County field with a newly discovered sand section of approximately 26 feet will rank next to the Montgomery County field.

Humble Oil & Refining Company has made two more new locations in the Raccoon Bend field. R. Thompson 14, 466 feet from the southwest and 933 feet from the southeast line of lease in the W. C. White survey. Sherrod 6, 466 feet from the southeast and 933 feet from the southwest line of lease in the W. C. White survey.

Humble Oil & Refining Company's J. Zeiske 1, on the east flank of the field, W. C. White survey was the first Raccoon Bend well to produce commercial oil from the Cockfield sand. This well topped the formation at 3807 feet with an elevation of 158 feet. After coring in the formation 250 feet the well came in at the rate of 392 barrels per day from sand found from 4016 to 4047 feet. It is recalled that the main producing sands of the Conroe field is 200 feet below the top of the Cockfield.

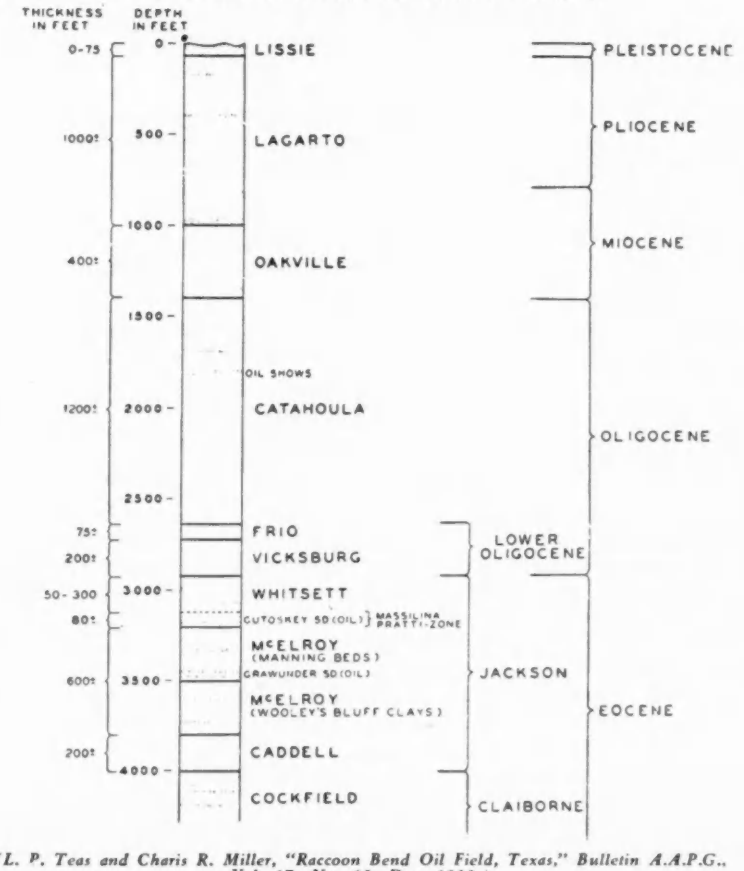
This sand marks the third main producing sand found in the Raccoon Bend field. The other two being the Gutoskey and Grawunder sands of the Jackson series and of Eocene age. The Cockfield sand is of the Claiborne series.

The Gutoskey, or Whitsett sand, which is found about 3000 feet, has an average thickness of 17 feet of clean sand, and was the first producing sand found in the field. Gutoskey 2, located on the south edge of the field in the south central part of the Wm. C. White survey, and more than two miles south of the first deep test, on February 3, 1928, found a well saturated body of sand at 3282 feet that initially made about 300 barrels of 20 gravity oil daily on a half-inch choke. This well is generally considered the discovery well of the field.

The lenticularity of the Gutoskey, or Whitsett sand, is notable. It is noted that in this formation, the gravity of the oil changes with depth. The variation in the gravity of the oil may be explained by its occurrence in numerous discontinuous lenses. There are at least 11 such lenses. Stratigraphically they occupy the same general position at the base of the Whitsett. However, there is a variation in the distance from the top of the Gutoskey sand to the top of the McElroy formation of as much as 20 feet, although the average interval is about 40 feet. The fact that almost every lense has an oil of different gravity, the lighter oil in general occupying the upper part of the structure, and the oil rather irregularly becoming heavier farther down the sides of the structure, suggest that the oil and gas may have formed from source matter close to the individual sand lenses. The analyses of oil from 20 wells drilled in this formation shows the gravity of the oil ranging from 19.6 to 28.9 degrees.

Humble Oil & Refining Company's Grawunder C-1, about 1800 feet east and a little north of Gutoskey 1, in the same survey, was the discovery well for the Grawunder sand. It was completed in May, 1929, 255 feet below the top of the Gutoskey sand, and 205 feet within the McElroy formation. The well came in from 3430 feet and made 385 barrels per day. The McElroy, or Grawunder zone is more porous and much more uniform than the Whitsett sand, although some lensing sands have been found. This sand is from 15 to 25 feet thick, with an average of 18

GEOLOGICAL SECTION OF RACCOON BEND OIL FIELD




*(L. P. Teas and Charis R. Miller, "Raccoon Bend Oil Field, Texas," Bulletin A.A.P.G., Vol. 17, No. 12, Dec. 1933.)*

feet of clean sand. The average gravity of the oil in the wells in this sand varies from 31 to 33 degrees.

The water level is found in the Gutoskey sand at different points due to the lenticularity of the formation. In this upper sand the depth of the water level ranges from below 3274 feet subsea on the west side to 3105 feet subsea on the east side, and to 3015 feet sub-sea on the south side. However, deeper in the formation some of the wells have showed very little water. In the deeper, or Grawunder sand, the water level varies, depending on which side of the fault it is. On the high, or outer sides of the faults, the water level is higher, being uniformly from 3260 to 3270 feet sub-sea on all sides of the field.

The gas oil-levels are very irregular in the Gutoskey formation. The gas-oil level is found at approximately 2990 feet sub-sea compared with a gas oil level above 2962 feet sub-sea on the south side of the Graben (Grawunder C lease); and about 2900 feet sub-sea on the north side of the Graben (McCasland and Sherrod leases). If there was no faults in the field, the common level would have been approximately 2990 feet sub-sea. No free gas exists in the Grawunder sand, therefore, no gas-oil level can be definitely ascertained.

The first oil production found in the field was Humble Oil & Refining Company's Thompson 2, which was completed at 1007 feet. This well made 35 barrels of 17 gravity oil per day along a big gas pressure. There has been 11 wells completed as gas wells from 930 to 1032 feet. This producing sand is found in the Oakville of the Miocene age.

The Raccoon Bend field is on the west bank of the Brazos river, in east central Austin County, within a large bend of the river from which the name of the field is derived. The field is eight miles east of Bellville, seven miles west of Hempstead, and 60 miles northwest of Houston. It is about midway between the Hockley and Brenham salt domes, 20 miles from each, and 16 miles north of the Brookshire dome. It is 48 miles southwest of the Conroe field.

Geophysical work in the field before discovery proved very unsatisfactory. Refraction seismograph showed nothing definite, gravity work showed that a deep structure existed. Reflection work was hampered due to high extension wires in the vicinity of the field. Surface geology showed gas seeps in shallow wells also sulphur wells. Pyrite was found in the surface clays. It is shown in the Geologic column the different formations encountered in the Raccoon field.

Humble Oil & Refining Company controls the entire field of approximately 30,000 acres. To date the company has 84 pumping and flowing wells in the field. The allowable for Raccoon Bend was 4000 barrels per day, but with the completion of the Cockfield well, J. Zeiske 1, an additional allowable of 350 barrels per day was given. The field has produced to June 15, 1934, approximately 12,595,439 barrels of oil, and has a proven area of 1162 acres, giving it an average of 10,833 barrels per proven acre.

To maintain the reservoir pressure and to assist in the movement of the oil toward the wells, high-pressure gas has been injected into both sands. The effect of this injection has proved satisfactory, because of the decline curves of a number of leases have perceptibly flattened and even risen from their normal slopes. Over 5500 million cubic feet of gas has been injected into the two producing sands.

The crude is moved out by Humble Pipe Line Company through an eight-inch line leading to its Satsuma station north of Houston. The line to Satsuma station was put in operation about December 1, 1928.

In addition to the oil line, there is a six-inch natural gas line leading out of the field. It extends to Brenham, a distance of about 25 miles, and supplies domestic and industrial consumers there. That gas line to Brenham is owned by M. & M. Gas Company, which has distributing lines at Brenham, and which contracted with Humble and allied companies for gas from the field. The line was put in operation about March 1, 1929.

## Taxpayers, Not Uncle Sam, Donors of Highway Funds

UNCLE SAM owes the motorists of America more than $324,000,000 and is getting deeper into debt to them with every passing month. He has spent $1,522,872,051 on highways in the past 16 years, but has collected in federal taxes from motorists $324,431,121 more than expended, or $1,847,303,170.

Nearly one fourth of these revenues has been collected through federal taxes upon gasoline in the last two fiscal years. In the 16 years of federal taxation of motorists, as revealed by data of the Bureau of Public Roads and reports of the Commissioner of Internal Revenue, the petroleum industry's operations and products yielded virtually one third of all revenue collected.

Federal gasoline taxes, in two years, amounted to $460,857,270, which is twice the income from any other source, with one exception, for the entire 16 years. The exception is the tax on motor cars and cycles, which produced $856,572,608 revenue in 16 years. However, it yielded only about $25,000,000 in the last two years, a period in which the federal gasoline tax produced $460,857,270. The largest yield from federal taxes on cars and cycles was in 1926, yet the total that year, $113,133,246, was substantially below the $124,232,925 revenue obtained in the first year of federal taxation of gasoline.

An interesting disclosure in the data obtained from the bureau and the commissioner by the National Highway Users Conference is seen in the fact that while $400,000,000 was appropriated to the states for highways under the National Industrial Recovery Act, only $80,500,725 actually has been paid to the states. The balance has been "apportioned, but not paid." Another interesting disclosure is seen in the figures indicating that while the federal government reputedly has been magnanimous in its expenditures upon federal aid highways, the total of federal aid grants for roads since 1918 have been less than half the amount paid by motorists for roads, through gasoline taxes, since 1919. Total federal aid expenditures have been $1,221,322,433. State gasoline tax collections alone have exceeded $3,500,000,000, and the payment of federal taxes upon gasoline have lifted that total nearly to $4,000,000,000.

Following are figures showing total collections from each federal tax in the government's fiscal years 1918 to 1934 inclusive, with the data for 1934 covering only 10 months:

| | |
|---|---|
| Transportation of oil by pipe line. | $56,885,961 |
| Motor trucks | 81,438,639 |
| Motor cars and cycles | 856,572,608 |
| Tires, tubes, parts and accessories | 252,357,455 |
| "For Hire" passenger cars | 13,543,190 |
| Lubricating oils | 54,613,581 |
| Gasoline | 460,857,270 |
| Tires (segregated after 1932) | 54,244,905 |
| Inner tubes (segregated after 1932) | 4,677,399 |
| Parts and accessories (segregated after 1932) | 12,112,162 |
| Total | $1,847,303,170 |

Following are figures showing United States government payments to states for highways:

| | |
|---|---|
| Federal aid | $1,221,322,433 |
| Emergency aid | 196,248,893 |
| Public works funds | 80,500,725 |
| Trust fund advances (revolving fund) | 24,800,000 |
| Total | $1,522,872,051 |

**L. J. BELL**, office manager of Brauer Machine and Supply Company is spending several days in Houston. Mr. Bell plans to make a trip through Gulf Coast fields before returning to Oklahoma.

## Commission Shake-Up Seen As Weakening Texas Enforcement

(*Continued from page 8*)

that many of his appointees were fired by Parker is a reasonable explanation of his attitude.

### Special Session Likely

In an interview the day following Parker's dismissal, Governor Meriam A. Ferguson indicated that a special session to straighten out the oil situation was entirely probable.

Her husband and advisor, James E. Ferguson, declared that the commission's order firing Parker was an open admission that there was 100,000 barrels of excess oil being produced in East Texas daily.

"If they'll tell a little more on each other," he said, "it'll be a political volcano. This order makes it official that there is produced daily in East Texas 100,000 barrels of hot oil. The commission says so. They are willing to admit that this has been going on for three months. My wife, the governor, is in favor of the preservation of state's rights, but no one would approve the conditions in East Texas.

"The only alibi offered by the commission for these hot oil runs is that Mr. Parker permitted it. To this Mr. Parker replied that 'you wanted me to keep your political pets on the payroll.' There is no question but that they are guilty of allowing flagrant violations for political purposes.

"We told Washington a year ago that the railroad commission and the 'hot' oil people were in close communion. The attorney general and the railroad commission are supporting each other in their respective campaigns for office and they are so busy running that they do not have the time to stop 'hot' oil

"When the refinery control bill was signed the Governor and I told them we did not think it would work. They assured us that it would, but conditions have become worse instead of better."

The statement by Parker to which Ferguson referred was included in a letter which said in part that,

"Apparently, I made the fatal mistake of firing political favorites of all three commissioners, some of whom had been on the payroll of the commission for several years, although their record of achievement and efficiency has been confined almost exclusively to vote-getting activity during political campaigns. Every time I fired one of them, some one of the three commissioners would put him back to work with resultant weakening of the morale of the entire organization; moreover their reinstatement resulted in the use of money for their salaries and expenses which was then and is now sorely needed for employing investigators to stop the illegal traffic of oil in the great East Texas field."

It has been learned privately that members of the Texas Senate investigating committee have also considered launching an investigation into the affairs of the commission, especially since Parker has been discharged.

More than two weeks ago members considered the question, and asserted freely that such an investigation appeared inevitable if Parker was relieved. There are several other indications that a special session of the legislature may be convened during the month of July to go into the oil situation, although no session had been anticipated before August.

The possibility that Parker might be employed by the federal government to handle the Texas oil situation under the code is not remote. He has been approached on this matter, and Washington has been requested to place him in this position.

The effects of this change are not yet apparent, and it will be weeks before the full picture is visible.

Parker, in Houston, expressed the opinion that it might be difficult to get a measure through the Texas legislature creating an appointive commission. He said that the commission was making a practice of appointing relatives and close friends of members of the house to positions in East Texas with the idea of "sewing up" the lower house of the legislature. THE OIL WEEKLY has no evidence of this except the unconfirmed reports that sometime ago there were more than two score such employees.

# E-Tex "Hot" Oil Volume Drops; Several Factors Cause

Tyler.—Estimates on the volume of excess production in the East Texas field for the week ending June 18 ranged from 55,000 to 75,000 barrels daily, a substantial drop from the previous week. Rumors of an impending break in the crude price structure, inability to move surplus gasoline held by independent refiners in the district, and renewed threats of early prosecution of proration violators by federal authorities combined in reducing the volume of "hot" oil run from the field.

Crude allowable for the field during the seven-day period was estimated at 502,875 barrels daily from 13,600 flowing and pumping wells. Crude runs by major pipe lines increased to a daily average of 484,150 barrels, while the commission's estimates on crude runs by local refineries was placed at 50,500 barrels daily, however, the latter figure is not taken seriously in informed circles because of the inability of the commission to check plants that refuse to make correct reports to the state.

## Cross Resigns as Commission Investigator

Longview.—A. B. Cross, Texas Railroad Commission investigator, whose work in recent weeks has resulted in the filing of alleged oil theft charges against 30 persons, has resigned effective at once.

Cross in his letter to E. N. Stanley, chief enforcement officer in the East Texas field, explained that he was giving up his position with the commission to accept an investigators position with the Texas Petroleum Council. Cross' resignation came within 48 hours after Stanley succeeded R. D. Parker as ranking officer in the field.

## Oil Companies Must Furnish Market Data

Washington, D. C.—Issuance of a formal order requiring members of the oil industry to furnish any factual information required by agents of the Interior Department to determine market demand for crude oil in the various producing districts, fields and pools was announced June 21 by the oil administrator.

The order provides that "the Petroleum Administrative Board in the Department of the Interior or any agent or employe of the Department of the Interior designated by said board is empowered to call on the Department of the American Petroleum Industry as defined in Section 2 of Article 1 of the aforesaid code for necessary statistical and other reports required to determine the net reasonable market demand for crude petroleum in the various producing districts, fields and pools of the petroleum producing states."

## Code Amendment Would Regulate Transportation

Washington, D. C.—Undeterred by his failure to obtain enactment of legislation giving him control of the transportation of oil, Secretary of the Interior Harold L. Ickes on June 21 announced that the Petroleum Administrative Board had been directed to begin hearings on June 27 on the question of amending the production section of the oil code to provide quotas of oil in commerce to strengthen the efforts to balance production with demand.

The proposal was submitted by the American Petroleum Institute and has been given the approval of the Planning and Coordination Committee. While it is admitted that amendment of the oil code to provide control of transportation of crude would be effective only so long as the code was in operation, it was indicated that the administration is anxious to have the authority as soon as possible in order that it may go before Congress next winter to seek reintroduction of the Thomas-Disney bill, at which time it will have as an argument the results which it is expected would be attained with the proposed new provision.

The investigation will begin immediately after Independence Day, but hearings are not expected to begin until September, when for three weeks the committee will sit at convenient points throughout the producing areas.

After the fall elections the committee is expected to remain in the field until Congress convenes in January.

Plans for the initial inspection trip and later hearings were laid at a meeting of the committee June 20. At that time, also, the members discussed the employment of experts to aid in dealing with technical questions and it was made clear by Chairman Cole that he does not want men from the Petroleum Administrative Board but, instead, will make every effort to insure the inquiry being absolutely independent of both government and industry influence. However, it is possible the board's men may be used where questions involve statistical data which the board already has collected.

One of the features of the inspection trip next month, the chairman revealed, will be a study of the "hot" oil situation to determine "how effective the setup is for enforcement of allocations assigned producing fields."

The primary purpose of the committee is to develop a basis for a federal conservation policy, toward which the oil code was the first effective step yet taken. Involving as it does the rights of states to regulate industrial activities within their borders, this question is seen by Congressman Cole as one offering tremendous difficulty, yet which must be solved if a permanent program of conservation is to be adopted and maintained.

## Pipe Line Tariff Rates May Be Investigated

Washington, D. C.—An investigation of pipeline rates in the South and Middle West may be made shortly by the Interstate Commerce Commission, it was disclosed June 21.

Denying a petition seeking the suspension of present rates, filed by the Louisiana-Arkansas Refiners Association against a number of pipeline companies, in which Oil Administrator Harold L. Ickes joined, the commission announced that it would "give further consideration to this matter with a view to possible entry upon its own motion of an order of investigation with respect to the rates covered by the tariffs in question."

## Promise Investigating Committee Cooperation

Austin, Texas.—Members of the Texas Railroad Commission have sent an invitation to the congressional oil investigating committee offering full cooperation when the committee begins its work in Texas.

In a message sent on June 21, the commission said: "The Texas Railroad Commission offers to your committee our full and complete cooperation in your investigation of the oil situation throughout the entire United States. All our records and all our information now or in the future are at your disposal throughout the oil fields of Texas. We further offer you motor transportation in your inspection of the fields. Please advise us when you will arrive in Texas and we will meet you anywhere you suggest."

Commissioner Thompson pointed out that the automobile transportation should be helpful to the committee, as their funds are limited by an appropriation.

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The schedule of inspection trips to be made by the code committee calls for a visit to the Pennsylvania fields next week. Shortly after July 4, Chairman Cole will leave for Tulsa to meet other members of the committee for a study of the fields in that area. From Tulsa the committee will go to Wichita Falls and then to East Texas.

## 117th and 118th Taxes Levied on Oil Industry

New York.—Enactment by congress of the Revenue Act of 1934 imposing a tax of one tenth of one cent per barrel upon the crude oil production, and an additional tax of similar rate upon crude oil refining or processing, increased to 118 the total number of taxes now imposed upon the petroleum industry's products, operations, and services. The federal government levies 26 such taxes, state governments 68, county governments five, and city governments 19.

The new taxes were imposed theoretically to finance the administration of the industry's NRA code, a new use for petroleum tax revenue. Other taxes are used to finance highways, federal, state, and local budgets, unemployment relief, fish hatcheries, oyster farms, schools, parks, libraries, wharves, docks, school books, salaries and pensions, advertising, city street repairs, debt services, etc.

A study of the industry's taxes and earnings, made recently by the Washington Petroleum Industries Committee and covering the years 1921 through 1932, revealed that the 12-year tax bill of the industry is about twice its 12-year net earnings—$4,862,291,829 against $1,994,039,974. The study disclosed also that the $4,862,291,829 tax bill is nearly one half the industry's estimated capital investment as averaged through the years—$10,031,521,000. The industry's weighted average earnings on its investment amounted only to 1.66 percent.

The committee's data follow:

| | |
|---|---|
| Average capital investment for 12 years | $10,031,521,000 |
| Net earnings for 12 years. | 1,994,039,974 |
| Percent earned on investment (weighted average) | 1.66% |
| Total tax bill for 12 years | 4,862,291,829 |
| Highest tax bill—1932.... | 747,097,125 |
| Net earnings in 1932 (estimated deficit of) | 182,400,000 |
| Largest net earnings—1926 | 475,393,629 |
| Tax bill in 1926 | 368,368,572 |

## Gas Sales Show Large Increase

New York.—Manufactured and natural gas companies reported revenues of $62,287,300 for April, 1934, as compared with $59,597,000 in April, 1933, an increase of 4.5 percent, according to Paul Ryan, chief statistician of the American Gas Association.

Revenues of the manufactured gas industry aggregated $32,869,100 for the month, representing only a slight increase over the corresponding month a year ago. Revenues of the natural gas industry however, totalled $29,418,200 for April, or 8.9 percent more than for April, 1933.

# HIGH SPOTS IN BRIEF

Well completions during the week were unusually successful, 225 out of the total of 368 being oil wells with aggregate initial output estimated at 787,000 barrels. During the same period the principal states reported start of 268 new tests, indicating a drop in volume of drilling. The latter is particularly the case in Texas where several factors, including new rulings on spacings in East Texas, drouth in North Texas and shortage of rigs in South Texas, are influences.

## *Oklahoma*

A new Wilcox sand producing oil field apparently has been found on the Tonkawa-Lucien trend. The well is eight miles northwest of Perry in Noble County and has several thousand feet of oil in the hole. The Crescent and Lucien fields of central Oklahoma received completions that were among their largest to date. The new Wilcox sand producer near Wewoka is to be recompleted in an attempt to shut off water.

## *South Texas*

Virtual assurance of one new field and a second promising possibility attracted attention to Refugio County last week. Both wells are in the vicinity of the Greta and Refugio fields, one is south of Greta and the other southwest of Refugio. An attempt to extend the producing area of the Luling field, Caldwell County, failed. The first successful completion in the 2800-foot sand of the Raisin field, Victoria County, has been made. It will be placed on the pump. Difficulty is being experienced in completing wells in the new Angelita field, San Patricio County, and Vanderbilt pool, Jackson County. Wildcat tests drilling to the Government Wells sand are holding interest of operators in Duval County.

## *North Louisiana-Arkansas*

Two gassers have extended the producing limits of the Rodessa gas field, northwestern Caddo Parish, Louisiana. One well extended the field two miles northeast and the other a half mile northwest. The Converse oil field, Sabine Parish, Louisiana, received a half mile west extension with the finding of a small gas well.

## *California*

California is experiencing a wildcat drilling revival as older fields decline in production and as operators become convinced it is only a matter of time until there will be a need for more oil. General Petroleum Corporation is having difficulties in testing its Berry 1, at South Belridge, which is bottomed at 11,377 feet—the deepest test in the wrold. Some oil and gas is showing through heavy mud. Activity in Mountain View and Mt. Poso fields continues to increase.

## *New Mexico*

More than a dozen tests are to be started immediately in the Cooper field, latest strike in Lea County. The first two completions are good producers and last week a treatment of acid increased the flow of one of these to 100 barrels per hour.

## *Rocky Mountains*

A second well has been completed in the Cumberland district, Lincoln County, southwestern Wyoming. Drilling operations in Wyoming continue active over a wide-spread area.

## *West Texas*

Schleicher County, where a test near El Dorado is showing several million cubic feet of gas, bids to join the ranks of West Texas producing counties. The south most producer in the North Cowden field, Ector County, developed into one of the largest producers in the pool when shot with 290 quarts. A new field for northwestern Ector County apparently has been found; a wildcat test has 2500 feet of oil in the hole. An effort to develop deep production in Pecos County has failed.

## *Panhandle*

The semi-wildcat territory opened last month in Gray County apparently is spotted, as tests offsetting the large discovery producer have failed to find even showings at expected depths.

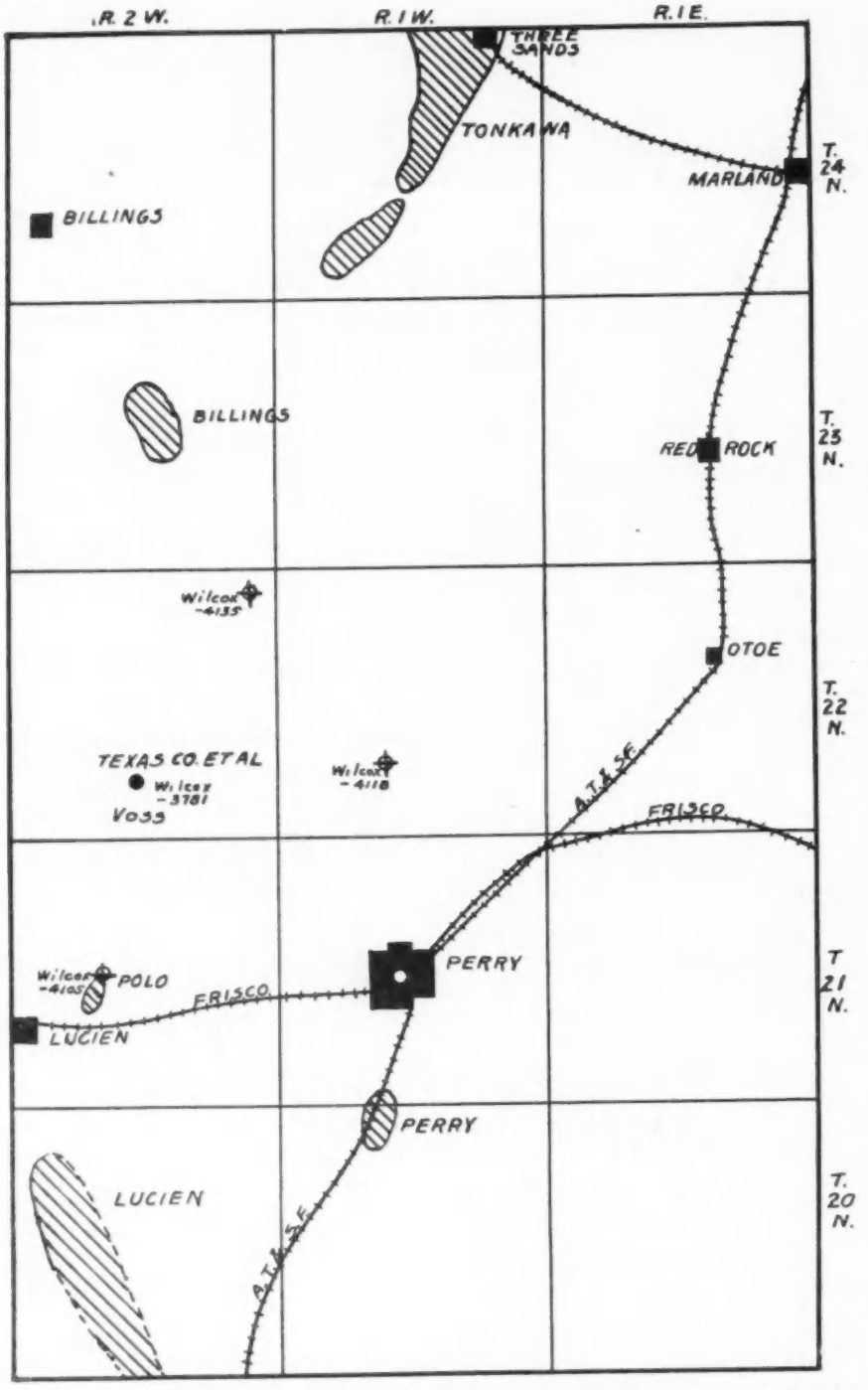
## *East Texas*

The anticipated drilling boom in the Rusk area, Cherokee County, is being held in abeyance pending outcome of rework job on the discovery well.

## Lucien Receives Second Largest Producing Well

Perry, Oklahoma.—The Lucien pool in southwestern Noble County received its second largest completion during the week when Shell Petroleum Corporation et al's L. Miller 2, C NE SE Section 18-20n-2w, flowed 1600 barrels in six hours on a potential gauge. The well previously had flowed at the rate of approximately 870 barrels at 5155 feet from upper Wilcox sand but when drilled to 5212 showed the big increase largely in the last four feet of pay.

In the discovery section the same operators' Magney 4, C NW SW Section 17-20n-2w, was drilling below 5190 feet with no increase in production; the same operators' Wolff 3, C SW NW, Section 17-20n-2w, on the discovery lease, drilled to 5086 feet in dolomite, lost tools and was fishing; Carter Oil Company's Weber 3, C NW SW Section 20-20n-2w, was rigging up standard tools at 4980 feet.




*Showing location of The Texas Company's well which promises a new producing spot in Noble County, Oklahoma.*

Carter Oil Company's Tate 2, CSE NW Section 29-20n-2w, in the southern portion of the area, drilled to 5175 feet, had big pay from 5147 to 5165 feet, and yielded 3609 barrels in 12 hours on a potential gauge. Gypsy Oil Company's Verne 1, C NE SE Section 29-20n-2w, was drilling below 4358 feet after whipstocking out of the pipe at 3980 feet; same operator's Verne 2, C SE SE Section 29-20n-2w, set 8⅝-inch casing at 4932 feet, total depth is 4937 feet, steel line measurement; Sinclair-Prairie Oil Company's Bohn 2, C NE SW Section 29-20n-2w, had drill pipe stuck at 4955 feet; Shell Petroleum Corporation et al's W. Henn, Jr., 1, C NE NE Section 32-20n-2w, was drilling below 1083 feet; Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Kolb 2, NE SW SW NW Section 33-20n-2w, remained shut down at 152 feet after setting 150 of 12½-inch surface pipe.

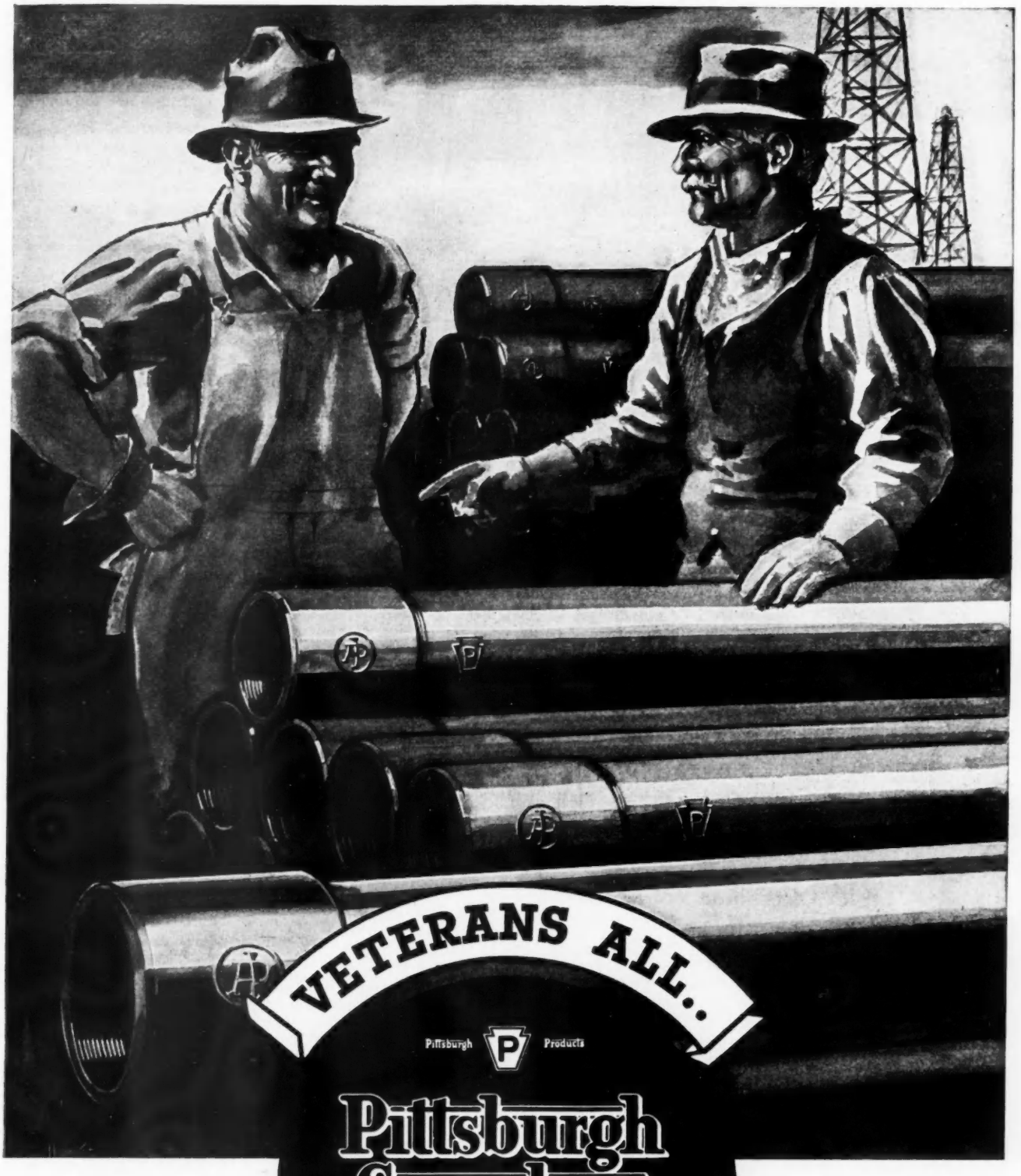
According to reports from Oklahoma City application will be made at an early date for a hearing to determine method for fixing new potentials for the Lucien and Crescent pools. Gauges for new potential are planned for July to become effective August 1.

## Large Crescent Pool Producer Completed

Crescent, Oklahoma. — Carter Oil Company's Herron 1, C NE NW Section 28-17n-4w, in the Crescent pool of western Logan County, produced 2534 barrels in eight hours on a potential gauge. At the end of this time all available tankage was full so the gauge could not be completed. It was reported flowing steadily at the rate of 300 barrels per hour which would place it among the larger wells in the field.

## New Field Found on Tonkawa-Lucien Trend

Tulsa.—Noble County was practically assured another oil pool as The Texas Company et al drilled slowly ahead below 4826 feet in Voss 1, C SW NE SE Section 28-22n-2w, eight miles northwest of the town of Perry on the Tonkawa-Lucien trend. The well based Viola limestone at 4770 feet and topped Simpson dolomite at 4778 feet, with a showing of oil and gas from 4809 to 4811 feet. An increase between 4816 and 4818 feet blew tools up the hole, which bridged 300 feet off bottom. The bridge was knocked out and drilling resumed. At 4820 feet there was 1300 feet of oil in the hole and at 4826 this had increased to 2000 feet with the well blowing about one half million cubic feet of gas. At the latter depth the formation is reported to have become

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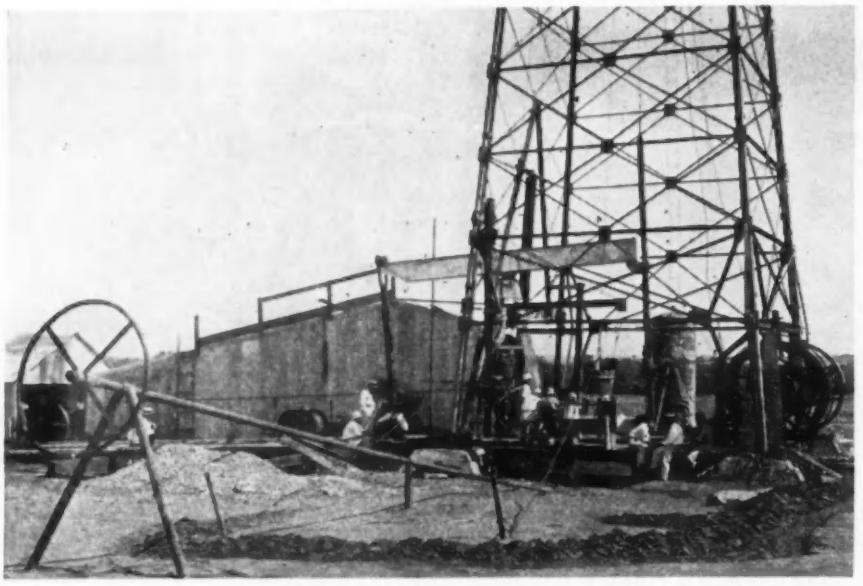


*The Texas Company's Voss 1, Noble County, Oklahoma*

slightly harder, indicating that the tools might be going out of the upper Wilcox sand topped at 4817 feet.

The test based on this correlation is more than 300 feet structurally higher than several dry holes with which it can be compared. It is being drilled on a 240-acre block which comprises the SE¼ of Section 28 and the W½ of the SW¼ of Section 27-22n-2w. The Texas Company, and Darby Petroleum Company each own 33 1/3 percent. Amerada Petroleum Corporation and Stanolind Oil & Gas Company own the remaining interest. Oil from the test is 44 degrees A.P.I. at 104° F.

## Wildcat South of Oklahoma City Nears Critical Depth

Norman, Oklahoma.—Phillips Petroleum Company et al's Baker 1, C NE NW, Section 11-9n-2w, approximately five miles northeast of here, was drilling below 6509 feet after finding top of the Checkerboard limestone at 5440 feet. This test is from a mechanical viewpoint one of the most interesting drilled in the state. It is powered with direct-coupled Diesel engines so arranged that the draw works and pumps operate from a main shaft. The rig may be run with either one or both of the engines. Using one engine on the draw works drillers pull a stand of three joints on an average of about 30 seconds and the blocks return at the rate of about 25 seconds using the intermediate clutch. Based on the interval between top of the Checkerboard and top of the Simpson formation at Oklahoma City, the test should now be in the Simpson section. Formation at the drilling depth was not reported.

## To Complete New Wilcox Producer at Wewoka

Wewoka, Oklahoma.—Fleetborn Oil Company et al have been granted 30 days in which to test and complete Bowlegs 1, NE NE SW Section 27-8n-8e, new Wilcox sand producer one mile east of the old Wewoka pool in Seminole County. On a 48-hour swabbing test the well gauged 1789.47 barrels of pipe line oil but is making some water, believed to be coming from Hunton limestone. Production is from Wilcox sand at 4193 to 4214 feet. Three offsets are being started in a development that geologists believe will prove an extension of the old pool rather than a new structure.

## Oklahoma Does Not Like Reduced Allowable

Oklahoma City.—There was evidence of possible discord between Oklahoma oil men and the Petroleum Administrative Board during the week, as the state prepared to take a reduction of 22,200 barrels daily during July as compared with the June figure. This reduction is said to have resulted from a penalty of 36,300 barrels daily for overproduction that is claimed to have been added to storage.

Many men of the Oklahoma industry feel that July allocations as between Texas and Oklahoma are inequitable in view of the fact that the former was given an increase of 10,000 barrels despite the fact that the major feature of the present slump in refined prices is admittedly due to "hot" oil production in the East Texas field. Although Oklahoma fields have exceeded federal allocations consistently since the first of the year, proration officials have done a remarkable job of shutting off illegal production and the excesses have been due largely to the impossibility of predetermining production from the unprorated areas.

At a conference between operators and the proration staff on Wednesday, June 20, it was shown that Oklahoma had exceeded federal allocations as shown in the following table:

| Month | Federal Allocation Bbls. Daily | Actual Production Avg. Bbls. Daily | Overage Bbls. Daily |
|---|---|---|---|
| January .. | 446,600 | 480,324 | 33,724 |
| February . | 346,600 | 461,431 | 14,831 |
| March ... | 456,400 | 478,645 | 22,245 |
| April .... | 476,400 | 504,434 | 28,034 |
| May ..... | 476,400 | 520,580 | 44,180 |

## Oklahoma State Allowable Conforms With Federal

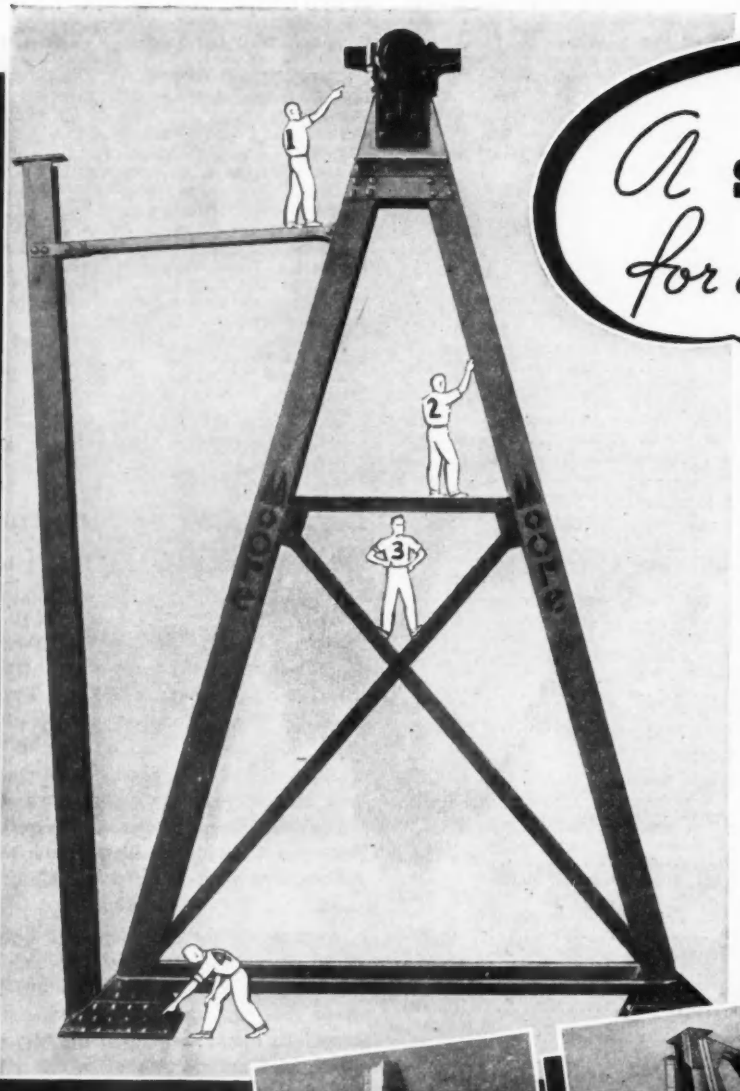
Oklahoma City.—In a hearing to determine July allowables for Oklahoma pools the Corporation Commission on Thursday, June 21, set state allowable at 489,500 barrels to conform to the federal allocation for the month. The order had been drawn and signed by Chairman Paul A. Walker but was not official since it did not have the signature of either E. R. Hughes or J. C. Walton. It was thought, however, that Hughes would sign the order and that it would be handed down before the week end.

## Indian Lands Are Offered for Lease

Muskogee, Oklahoma. — The Five Civilized Tribes will offer at public auction on Thursday, June 28, oil and gas mining leases on 2378.79 acres of land situated in Tulsa, Creek, Okmulgee, Wagoner, McIntosh, Okfuskee, Seminole, Hughes, Murray, Grady, Stephens, and Jefferson counties. A total of 31 tracts will be offered. Of this number eight tracts are located in Okmulgee County and seven in Creek County.

## Fifty Completions in Oklahoma Past Week

Tulsa. — Completion results during the week in Oklahoma were above the average when 31 oil wells yielded a total of 25,069 barrels initial production. The reports also include one dry gas well with initial volume of 3,000,000 cubic feet, five abandoned locations, and 13 dry holes, a total of 50 completions for the week. The footage figure was 109,386 feet, including 151 feet in two old wells drilled deeper. Oklahoma County led in initial production through

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The Moore 90 Series Samson Post is a simple A-frame type which meets the requirements of the most severe pumping and drilling conditions. It is designed to accomodate either A. P. I. side irons and saddle or Moore oil bath side irons with an A. P. I. saddle (1). The legs (2) are of heavy I-beam sections, 14" @ 34#. The post is adequately cross braced (3) with 3" x 3" x ¼" angles. The large base plates (4) reduce the bearing pressure on concrete.

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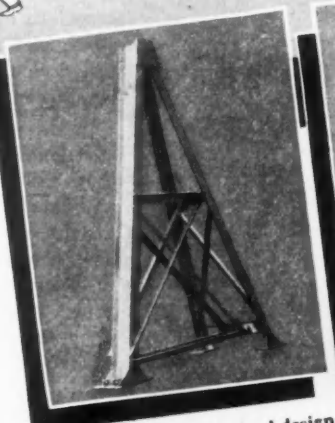
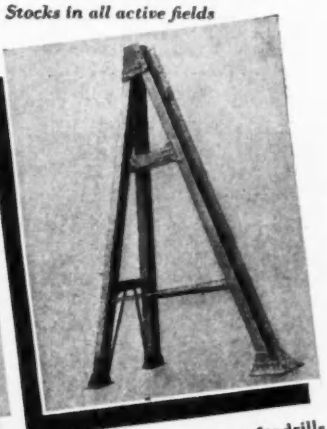


Type 114 Post is of tripod design intended, primarily, for heavy duty pumping service.

Type 65, also a tripod post, has vertical front legs, to clear a production hoist.



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three wells in the Oklahoma City pool. Reports were as follow:

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| CARTER COUNTY— | | |
| Mudge Oil, Major 5, nw nw se 25-1s-3w | 147 | 2677 |
| Cotton Belt (Turman Oil Co.), Phoebe Rexroat "C" 5, ne nw nw sw 10-4s-2w | 5 | 1826 |
| COTTON COUNTY— | | |
| Shasta Oil, J. M. Smith 2, nw sw ne sw 31-1s-9w | * | 2735 |
| CREEK COUNTY— | | |
| J. T. Nunnelee, Morton 1, nw nw sw nw 21-17n-7e | * | 3002 |
| J. E. Crosbie, B. F. Casey 3, nw nw nw se 3-17n-8e | 235 | 1371 |
| Holmes & Jackson, Holmes 4, ne ne nw ne 6-18n-11e | * | 1950 |
| Midco, Land 1-A, se se se nw 12-18n-11e | 20 | 1435 |
| HUGHES COUNTY— | | |
| Pioneer, Brock 1, se se se 26-5n-11e | abd. | lcn. |
| Limestone, Walker 12, cw½ sw ne ne 15-7n-8e | 140 | 1210 |
| JEFFERSON COUNTY— | | |
| O. V. Beck, W. D. Seay 10, ne nw sw se 34-6s-5w | 35 | 1576 |
| Farlyn Oil Co., Seay 17, ce½ ne nw se 3-7s-5w | 25 | 1091 |
| LINCOLN COUNTY— | | |
| Magnolia, Z. Wagner 4, sw ne ne 18-14n-4e | 350 | 4994 |
| Harry Newman Oil Co., A. M. Reub 1, cnw ne 23-15n-5e | abd. | lo. |
| MARSHALL COUNTY— | | |
| Letz et al, Coatsworth 2, cnl nw nw 32-5s-7e | 12 | 691 |
| R. A. Godfrey, Burge 3, ne sw se se 25-7s-5e | 65 | 522 |
| MUSKOGEE COUNTY— | | |
| Babcock & Young, Fields 1-A, ne ne nw nw 22-16n-15e | * | 1365 |
| NOBLE COUNTY— | | |
| Magnolia Pet. Co., Long 2, cnw se 20-20n-2w | ¶3½-2390 | 5208 |
| Skelly Oil, Long 2, csw nw 28-20n-2w | ¶2-2414 | 5145 |
| OKFUSKEE COUNTY— | | |
| Wells, Stevinson 3, nw nw nw se 14-10n-11e | * | 2025 |
| OKLAHOMA COUNTY— | | |
| Citizens Oil Synd., Sage & Barber 1, ne ne ne 21-11n-3w | * | 1200 |
| I. T. I. O., Peterson 9, sw sw sw 25-11n-3w | 1120 | 6604 |
| Goldie Lord 3, ne ne ne 35-11n-3w | ¶20-2472 | 6537 |
| Helmerich & Payne, Larkin 1, ne nw se se 34-12n-3w | ¶9-10,128 | 6405 |
| OKMULGEE COUNTY— | | |
| Colton-Phillips, Jackson 2, ne ne sw ne 20-13n-13e | ¶3 | 1110 |
| Gled, Manuel 2-A, cw½ sw nw se 22-13n-14e | 20 | 2474 |
| Colton-Phillips, Adams 1, se nw se 17-14n-12e | * | 2747 |
| Hazlett, Dunbar 4, cw½ sw sw 30-14n-13e | 60 | 1962 |
| J. E. Wallace, Colbert 13, cn½ nw nw 14-14n-14e | 40 | 1804 |
| C. Peterson, Ware 13, ce½ sw sw 9-15n-14e | * | 1086 |
| OSAGE COUNTY— | | |
| Grey & Tolson, Osage 6, se sw sw 27-21n-9e | 10 | 1124 |
| Ohio Osage, Osage 6, cs½ ne nw 34-21n-9e | 12 | 1113 |
| Maraydun Oil Co., Osage 1, se se ne 35-21n-10e | * | 2224 |
| Superior Oil Corp., Osage 1, cn½ se 5-22n-11e (owdd) | * | 1860 |
| Carter Oil, Ducoley 5, ne ne se 3-25n-6e | 3001 | 2869 |
| Fred Rock et al, Osage 2, sw sw sw 2-28n-10e | * | 1300 |
| PONTOTOC COUNTY— | | |
| Phillips-Milam, Layen 1, sw nw nw 30-5n-5e | 60 | 2322 |
| POTTAWATOMIE COUNTY— | | |
| Key-Okla., Hines 2, nw nw ne 9-7n-4e | 168 | 3714 |
| Prince Drlg., Brandenburg 1, ne sw nw 21-7n-4e | 72 | 3980 |
| Morgan Pet., Cashdollar 1, se sw ne 30-8n-4e | * | 4632 |
| Morgan, Robinson 1, ne nw se 30-8n-4e | lcn. | abd. |
| Dickerson, Cockrill 1, sw nw se 35-8n-4e | lcn. | abd. |
| SEMINOLE COUNTY— | | |
| Stano-Amerada, Aldridge 2, cnl s½ se 2-5n-7e | ¶1-6 | 1032 |
| Burk Greis, Fixico 2, sw sw sw 17-9n-6e | 20 | 4235 |
| Carter, Aldridge 2, cs½ se nw 35-11n-6e | 2001 | 4159 |
| STEPHENS COUNTY— | | |
| Angle & Medlin, Layne 1, se sw sw 1-1s-4w | lcn. | abd. |
| Mudge Oil, Wood 34, nw nw nw nw 26-1s-5w | 4 | 440 |
| Wood 35, cw½ nw nw nw 26-1s-5w | 12 | 655 |
| Dr. Johnson, Shaw 1, se se se nw 20-2n-8w (owdd) | * | 2560 |
| Raizen Brothers, Brown 9, nw sw ne se 2-2s-5w | 3 | 664 |
| Merco Oil, P. Trout 1, nw nw nw sw 1-2s-8w | 22 | 1460 |

*Failures; †Junked; ¶Million cu. ft. gas.

***The drilling crew pictured above are Diesel engine drillers, employed on Phillips Petroleum Company's Baker 1, 18 miles south of the Oklahoma City field. All are members of Loffland Brothers, drilling contractors. From left to right, first row: Dick Moody, Jean Loftin, John Rundel, Ben Allen, Dusty Rhodes. Second row: Clyde Wilson, Tom Canafax, Bob Hensley, Joe Simpson, Dude Camden, toolpusher; Troy Renfroe. Third row: D. Johnson, Tom Simpson. Fourth row: Slim Harris, Paul Myres.***

## Legal Status of Sixteen Oklahoma Wells Questioned

Oklahoma City.—City officials of Oklahoma City were debating the status of 16 wells within the city limits after the state supreme court ruled on Tuesday, June 19, that ordinances passed in 1933 and under which drilling of the wells was permitted, is illegal. The ordinance was passed with an emergency clause which later was retracted. The court held that this move was illegal and that a referendum petition filed at the time is valid.

As a result the city clerk has been ordered to check the petition which contains approximately 10,000 signatures. In event the signatures are found sufficient it will be mandatory upon the city council to call an election at which citizens will decide whether the extension should be allowed.

In the meantime status of the wells is questionable. It is believed however, that they will be allowed to produce unless anti-extensionists should be granted a district court injunction. A hot battle has been waged for the past year or so in regard to extension of the drilling zone which has gradually encroached upon the residential section of the state capital.

## Kansas Adds Thirteen New Oil Producers

Wichita, Kansas.—Kansas operators experienced a normal week with 13 oil wells yielding 5639 barrels initially, one abandoned location and eight dry holes, a total of 21 completions. Rice County had a commanding lead both in number of completions and initial production when five wells yielded at the initial rate of 4141 barrels. There were also two dry holes in the county. The 21 completions involved 55,169 feet of

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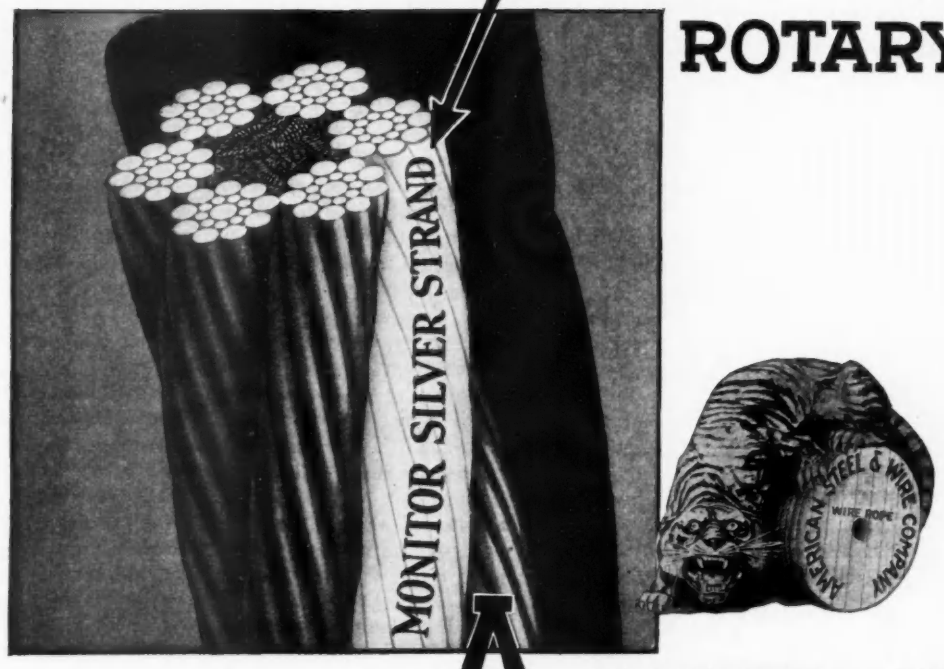


# A SILVER STRAND ELIMINATES DOUBT

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## SILVER STRAND ROTARY LINES

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1934

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*Pacific Coast Distributors:* Columbia Steel Company, Russ Bldg., San Francisco

*Export Distributors:* United States Steel Products Company, New York

drilling which included 256 feet in two old wells drilled deeper.

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| GREENWOOD COUNTY— | | |
| Bennett, Mather 4, ce/1 nw nw 21-22s-10e | 15 | 2594 |
| McGinnes, Beal 5, sw sw sw 28-23s-11e | * | 1965 |
| Franco Central, Wilkinson 9, ne nw se sw 6-25s-9e | * | 2229 |
| Paulhams, Sample 1, cs/1 se 35-25s-10e | 65 | 1993 |
| Morrison, Tolman 1, sw nw sw 15-28s-11e | * | 1196 |
| McPHERSON COUNTY— | | |
| Boyle et al, Smith 3, sw nw nw 29-19s-1w | 749 | 3434 |
| McBride, Finkle 2, ne nw nw 23-19s-2w | 48 | 3387 |
| Palmer, Ritz 3, nw ne nw 7-20s-1w | * | 3452 |
| RENO COUNTY— | | |
| Atlantic, Phillips 1, ce/2 nw ne 22-22s-6w | * | 4048 |
| Sinclair Prairie, Base 4, cne se 26-23s-4w | 71 | 3374 |
| RICE COUNTY— | | |
| Hollow et al, Boldt 1, sw nw sw 23-18s-10w | * | 3277 |
| Elwell, Springer 1, ne ne nw 35-18s-10w | * | 3301 |
| Ramsey, Lansing 5, cn/1 sw nw, 32-19s-9w | 771 | 3267 |
| Gypsy, E. Steckel 1, cw/2 sw ne 31-19s-10w | 101 | 3337 |
| Gypsy, Cristopher 4, cn/2 nw ne 6-20s-9w | 1605 | 3233 |
| Lario O&G, McFarland 1, se ne sw 7-20s-9w (owdd) | 1200 | 3297 |
| Foote 1, sw sw ne 7-20s-9w | 464 | 3301 |
| RUSSELL COUNTY— | | |
| Myers, Crug 1, ne ne se 27-14s-14w | lc. abdn. | |
| SEDGWICK COUNTY— | | |
| Magnolia, H. Vickers 2, sw nw nw 20-27s-2e (owdd) | 160 | 3209 |
| Shawver, Brookings 1, sw sw sw 16-28s-1e | 390 | 3099 |
| TREGO COUNTY— | | |
| Central et al, King 2, se sw ne 20-13s-21w | * | 4453 |

*Failures; †Junked; ¶Million cu. ft. gas.

## Intangible Pipe Line Assets Hearing Start

Austin, Texas.—The State Tax Board has begun a series of hearings on the assessments made on the intangible assets of Texas pipe lines that have been made by the board under the new tax law which became effective on January 1, 1934.

Hearings on major company lines have been set for the remainder of June at the rate of two each day. Two companies, Pasotex Pipe Line Company and Empire Pipe Line Company, have accepted the assessments as made by the board. The others, however, will probably seek a lower rate.

The tax is based on the net earnings of each line in the same manner that assessments are made against railways. However, the board is inclined to allow a lower rate than is applied to the rail lines, since the pipe line traffic is limited to one commodity, and the line is useless when a field to which it is connected ceases to produce.

Hearings have been completed on Atlas Pipe Line Company and Arkansas Pipe Line Company.

Beginning on July 2 hearings on 39 of the smaller lines will be held.

# To Recomplete Rusk Discovery Producer

Palestine, Texas.—The anticipated drilling boom around the recently discovered Rusk pool, Cherokee County, is being held in abeyance pending the outcome of the workover job now taking place in the wildcat producer, which was made necessary because of it developing a high percentage of cut oil when first turned into storage tanks on June 10. T. J. Wood, Houston, and associates' discovery well on the New Birmingham Development Company 160-acre lease, Levi Jordan Survey, located about seven miles southwest of Rusk, was killed on the morning of June 15 to plug back from 5125 feet to 4893 feet to set whipstock and drill out of the casing so as to cut a new hole in penetrating the Woodbine sand.

While awaiting the results of this attempt to restore the well to production, operators are keeping close tab on the progress made by C. & G. Oil Company and Magnolia Petroleum Company's New Birmingham Development Company 1, J. F. Timmons Survey, located about 1½ miles southeast of Rusk. It was drilling below 3200 feet, with an elevation of 493 feet, and first chalk markers were due to be reached by the end of the week. Leases in vicinity of this wildcat have been commanding a price of $125 per acre.

A top price of $2,000 per acre, one half cash, was paid for leases around the discovery well drilled in on June 3 by Wood et al, but the bottom literally dropped out of the market when the well developed a high percentage of salt water before being exposed to any appreciable drainage. This producer gauged 110 barrels of fluid, testing 20 percent b.s. and water, flowing through three quarter-inch choke, on the hour prior to being shut in to kill. The oil tests about 41 gravity, and is very similar to that produced in the East Texas field.

Drilling has been resumed on the eastern Cherokee County wildcat test of A. R. Lewis, Corsicana, and others on the Jess Bradford 50-acre lease, John Laprelle Survey, located about nine miles east by north of Wood et al's discovery well, after being idle for some weeks at 3100 feet. K. Hughes, Wm. McCullough et al contracted to take over this project and deepen to the Woodbine sand for leases on about 2000 acres out of the original block.

Gulf Production Company's wildcat in southeastern Henderson County on the Geo. Collins 100-acre tract, W. J. L. Scott Survey, was coring below 4750 feet late last week, logging sand and shale. The top of the Woodbine section has not been called, although it is believed to be near a decisive depth. This is the first wildcat for the company in East Texas in a number of years.

In eastern Rusk County, the wildcat test of Geo. F. Hudson et al on the Jeff H. Phillips tract, N. Villareal Survey, is reported to have yielded a show of oil with mud on drill stem test made at 3600-3622 feet. The first two attempts to drill to the Woodbine horizon were junked at shallow depths, and in the meantime leases have expired on the greater portion of the original leasehold held by the owners of the test, which is west of the southwest corner of Panola County. Operations have been suspended until a string of pipe is procured to make a production test.

A Trinity sand test for the west flank of the Mexia field is slated to be started shortly by Peyton Brothers, Mexia, and associates. Sufficient leases have been acquired to assure the drilling of this proposed deep test. R. L. Wheelock, J. L. Collins, Magnolia Petroleum Company and Humble Oil & Refining Company are drilling a test to the Trinity on the west edge of the Corsicana-Powell field. A production strike in the Trinity by either of these two tests would instantly set in motion an active lease and royalty play for the full length of the Mexia fault zone, and on structures that failed to produce in the Woodbine.

Boone et al have erected derrick to drill a wildcat in southwestern Houston County on the Trinity State Bank 142-acre lease, Charles McEllis Survey. This is about six miles east of Weldon and only a short distance north of the Walker County line.

In eastern Franklin County, the wildcat test of Magnolia Petroleum Company in the southeast corner of the J. M. Dupree 640-acre tract, W. D. Taliaferro Survey, was considered a probable failure after drilling to 3615 feet without showing oil or gas in Woodbine topped at 3270 feet, with an elevation of 317 feet. Pecan chalk was logged at 1484-1564 feet, and first red beds in the Woodbine at 3306 feet.

H. N. H. Drilling Company, Gladewater, Texas, has acquired control of the Morris County wildcat test originally started by Key & Argaud, Dainger-

field, Texas, on the E. Hall 177-acre lease, Levi Jordan Survey, located about five miles northeast of Daingerfield. Drilling was in progress below 2850 feet, according to H. A. Fleishman, an official of the above company.

## Readjustment of Allowables Expected at Texas Hearing

Austin, Texas.—Readjustment of allowables in several Texas fields are expected following the statewide proration hearing scheduled for Tuesday, June 26.

At the last hearing held on May 28, requests were filed for minor increases in several fields, but the commission has not taken action on these. Lanten Stanberry, chief supervisor of oil and gas, said that this was one of the principal purposes in calling a hearing at this time.

There are also some new fields that have not yet had allowables set. Included in this group are the new Rusk, Tuleta, Welder, Angelita and Vanderbilt fields.

Several temporary orders now effective will probably be promulgated in their final form following the hearing. Some adjustments are also expected to be made that will equalize inequalities existing between fields.

Nominations from purchasers of Texas crude have been requested and these are to be filed on Monday before the hearing. This information, together with the estimate of consumer demand from the Bureau of Mines, will constitute the evidence of market demand which the commission will have to consider in determining a proper allowable for the state as a whole. Nominations filed at the last hearing indicated a demand for 1,138,000 barrels per day.

## Revise Spacing Plan For North Cowden Pool

Austin, Texas.—A revised plan of spacing for the North Cowden field in Ector County has been adopted by the Texas Railroad Commission in an order issued on June 19. Wells may be spaced 440 feet from lease or boundary lines, and 880 feet apart.

Several hearings have been held on this spacing problem, both before the commission and the Federal Planning Committee. The plan adopted by the commission was offered by E. A. Landreth, operator in the field. Several of the companies preferred a system of spacing that would allow the drilling of one well in the center of each 40-acre tract.

Landreth, however, urged that the other system be installed, although planning to drill only one well on each 40-acre unit at the present time. He advanced the argument that his plan would permit more regular development.

# Action Expected from Agents in "Hot" Oil Drive

Tyler, Texas.—The production control division of the oil code administration on duty in the East Texas field is ready to discard its time-worn policy of stalling, bluffing and issuance of heretofore empty threats of prosecution of alleged violators of state and federal regulations governing the production and traffic in crude produced illegally and refined products made thereof. Such a policy has been pursued for more than 11 months without a single conviction. Violators have during this period lost all fear of being assessed jail terms or heavy fines by federal authorities, despite repeated threats, and ridicule the efforts of the latter in the same manner shown towards the attorney general's department in its spasmodic efforts to support the Texas Railroad Commission in curbing "hot" oil.

A showdown on the intentions of the oil code administration to regain its standing and incidentally a curb on excess production has been promised to materialize before July 17, anniversary date of the arrival of first federal agents in the field. A series of court battles have been conducted by the oil code administration in trying to preserve its legal standing as an aid to state authorities in handling the situation in the East Texas field, but even in the face of favorable decisions an ultra cautious policy has been adhered to, presumably to avoid the risk of a reversal of cases on appeal.

Complete reorganization of federal forces in the field was in progress last week as a sequel to a series of conferences between Louis R. Glavis, Charles I. Francis, and various agents.

It is reported that in preparing for the drive against violators that R. J. Cannon, who has been special agent in charge since mid-March, has been assigned to other duties, and succeeded by two special agents having charge of equal portions of the field. This subdivision arrangement is expected to facilitate the handling of cases to be acted upon, and promote efficiency of the enlarged staff of field men being hired.

S. S. Christenson is reported to have been appointed special agent in charge of the field office to be established at Kilgore, while I. J. Canton will serve in the same capacity at the Tyler office.

In anticipation of a long stay, federal authorities are having an office building erected at Kilgore, center of field activity and also the principal office of the field staff of the Texas Railroad Commission.

A mass of evidence has been assembled and filed by the oil administration's field organization during the 11 months of continuous duty that includes ample information to institute court proceedings against alleged "hot" oil producers. It is understood that the agents have dilligently added to their information on chronic violators as each new offense is committeed in anticipation of the day when actual efforts to prosecute would be undertaken.

The procedure to be followed and basis of prosecution have been carefully withheld by federal authorities, thus leaving violators in the dark as to what to expect. In the past the ranking officials of producing, refining and pipe line concerns engaged in and prospering through "hot" oil activities have fled the state when it appeared that the oil administrator may follow up threats to start criminal proceedings.

Federal Judge Randolph Bryant, who has upset proration efforts of state and federal authorities in the past in ruling favorably on complaints presented by alleged violators, is expected to fire the preliminary gun of the scheduled drive on June 25 when N. S. Locke, president of Locke Refinery, Inc., Gladewater- appears to face charges of being in contempt of court. The offense is alleged to have been committed shortly after the defendant was enjoined by Judge Bryant from violating proration orders of the commission some months ago, and trial has been been postponed on several occasions.

## East Texas Completes 90 Wells Third Week

Tyler, Texas.—A total of 90 wells were completed in the East Texas field during the past week. This being the third consecutive week that this number of completions have been recorded for the field, although the latest report included a dry hole on the east flank of the strucure in Northern Gregg County. The field is due to come through with one more large quota of wells, then a sharp drop in completions will result from the recent stand taken by the Texas Railroad Commission in refusing to grant permits to drill tests that are an exception to its spacing rules until a special hearing is conducted. This policy automatically serves as a curb on drilling as only a limited amount of time is spent each workday

on hearings, and it would require day and night shifts to grant exceptions that are required to sustain the volume of drilling that has been taking place for some months.

Operators are also less eager to continue their former practice of crowding in wells on small sites for fear of a callapse of the crude price structure. In recent months it has been a common occurrence to drill wells on less than half-acre sites, while two wells on one and two acre tracts are quite prevalent.

Detailed list of completions in the East Texas field for the past week follows:

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| JOINER AREA— | | |
| Arcadia Ref. Co., W. R. Wofford 3 (8-ac) | 9600 | 3745 |
| Arkansas Fuel Oil Co., J. W. Wheelis 7 (80½-ac) | 8200 | 3668 |
| Atlantic, I. L. Kinney 20 (336-ac) | 6800 | 3630 |
| I. L. Kinney 21 (336-ac) | 7000 | 3635 |
| J. E. Strickland 5-D (103-ac) | 600 | 3670 |
| J. E. Strickland 7-D (103-ac) | 590 | 3672 |
| Brogan O&G Co., T. O. Wright 4 (5¼-ac) | 6000 | 3715 |
| T. B. Donnell & Jack Apple, G. T. Moore 1 (40-ac) | 80 | 3695 |
| S. A. Genecov & Rooth, F. M. Pilgreen 1 (1-ac) | 2800 | 3800 |
| Humble, R. A. Barksdale 3-B (114-ac) | 10,500 | 3606 |
| A. D. Blackwell 33-A (325.79-ac) | 10,000 | 3646 |
| Kangerga 40-A (330-ac) | 9000 | 3696 |
| Kangera 42-A (330-ac) | 8600 | 3712 |
| L. R. Reid 6 (70-ac) | 8500 | 3732 |
| Virginia Turner 10-A (126.26-ac) | 11,000 | 3738 |
| Hunt Prod. Co., R. W. Fair 11-B (138¼-ac) | 10,500 | 3682 |
| Joe Lee 3-B (19.22-ac) | 12,000 | 3714 |
| Smith Wilson 6-A | 11,000 | 3790 |
| Imperator Oil Corp., F. J. Cox 3 | 3600 | 3670 |
| E. C. Laster, Inc., L. B. Rollins 5 (22-ac) | 10,000 | 3621 |
| Magnolia, C. D. Ashby 6 (40.97-ac) | 6500 | 3660 |
| W. B. Giles 6 (15.03-ac) | 7000 | 3682 |
| W. W. Holland 3 (17.57-ac) | 6500 | 3730 |
| T. O. Mason-Falcon 14 (144.8-ac) | 5000 | 3693 |
| McClanahan-Venable Oil Co., Birdwell 23 (150-ac) | 10,600 | 3636 |
| McMurrey-Fair, Inc., R. W. Fair 6 (20-ac) | 10,000 | 3658 |
| Mid-Kansas, W. T. Grissom 68 (842.7-ac) | 8500 | 3682 |
| Miller Prod. Corp., Bradford 2 (34-ac) | 4500 | 3640 |
| Bradford 6 (34-ac) | 7500 | 3630 |
| Octo Oil Corp., E. B. Alford 2-B | 750 | 3701 |
| Olson Bros. & D. L. Johnson, Powers 11 (131-ac) | 10,400 | 3674 |
| Sells Pet., Inc. (was Gulf States), W. B. Giles 2 (5-ac) | 7100 | 3780 |
| Stanolind, R. G. Mason 10 (107.2-ac) | 5500 | 3616 |
| Martha O'Quinn 8 (80-ac) | 8000 | 3803 |
| R. F. Russell-Hunt 4 (35-ac) | 7800 | 3775 |
| Stewart Holdings, Inc., S. S. Cook 2 (5-ac) | 7500 | 3737 |
| Sun, J. D. Henson 18 (216½-ac) | 6000 | 3670 |
| Texarkana Oil Co., T. O. Wright 3 (8-ac) | 6700 | 3684 |
| Tide Water, J. F. Shaw 9 (85-ac) | 9000 | 3745 |
| Tysco Oil Co., Frederick 2-A (6-ac) | 125 | 3634 |
| Weaver-Perry Oil Corp., T. O. Wright 7 (12-ac) | 6000 | 3710 |
| KILGORE AREA— | | |
| J. Beren et al, A. Holt-Shell 6 (69.17-ac) | 6000 | 3710 |
| Champlin-Bass, Inc., J. B. Watson 8 (23.49-ac) | 9300 | 3607 |
| DeArman & L. O. McMillan, Alex Strong 6 (25-ac) | 8800 | 3662 |
| W. Roberson-Shell 4 (100-ac) | 4800 | 3695 |
| Friedman Oil Corp.-Swindler, Mayfield 8 (123-ac) | 9400 | 3712 |
| Galvez Oil Corp., M. T. Cole 10 (40-ac) | 4500 | 3562 |
| Gulf, Birdsong 10 | 7600 | 3587 |
| W. G. Sexton 10 (165.58-ac) | 2600 | 3687 |
| A. Spear 29 (96.36-ac) | 5800 | 3561 |
| J. B. Hughes et al, A. A. King 2-A | 9700 | 3729 |
| Humble, L. D. Crim 123 (906.92-ac) | 9800 | 3681 |
| S. S. Laird 27-A (230-ac) | 6000 | 3694 |
| J. N. Peterson 26 (222.1-ac) | 9200 | 3640 |
| Island Oil Co., R. D. Register 6 (37½-ac) | 7500 | 3638 |
| Otto Massie et al, H. B. Loughridge 3 (13-ac) | 7500 | 3704 |
| Stantex Pet. Co., L. B. Morse 3 (11.79-ac) | 8800 | 3649 |
| Sun, J. R. Beall 13 (180-ac) | 8700 | 3596 |
| Texas, H. T. Elder 20 (86-ac) | 7000 | 3656 |
| Tide Water, J. R. Beall 8 (80-ac) | 7700 | 3654 |
| Sam K. Vierson et al, Andy Givens 2-A (12.62-ac) | 10,000 | 3628 |
| LONGVIEW AREA— | | |
| Amanda, D. L. Magrill 6 (45-ac) | 7800 | 3706 |
| W. D. Ambrose et al, Geo. Jones 8 (20-ac) | 9400 | 3608 |
| Atlantic Oil Prod. Co., G. A. Porter 13 (109-ac) | 9500 | 3680 |
| S. P. Branson-Mamie S. Hammonds, Fuller 2 (5-ac) | 5500 | 3733 |
| California Pet. Corp. (Ven.), J. N. Taylor 4 (37-ac) | 7500 | 3701 |
| C. & G. Oil Co., M. Magrill 2 | 12,000 | 3675 |
| Clark-Cowden-L. Sikes, J. W. Free 5-A (37-ac) | 9200 | 3675 |
| Conservative Oil Co., R. J. Mackey-Humble 2 (147.1-ac) | 5700 | 3737 |
| Empire, L. A. Jeter 15 (121½-ac) | 9600 | 3572 |
| J. L. Spurrier 6 (52.22-ac) | 9500 | 3646 |
| Fain-McGaha Oil Corp., A. Tooke 13 (100-ac) | 10,000 | 3663 |
| Gen'l Crude Oil Co., F. T. Rembert 12 (89.27-ac) | 8000 | 3548 |
| Gulf, S. C. Fishburn 18 (200-ac) | 7000 | 3515 |
| Humble, T. M. Armstrong 18 (155.7-ac) | 8800 | 3601 |
| W. C. Mackey 9 (198½-ac) | 5000 | 3591 |
| Jess Phillips 9 (77.6-ac) | 9000 | 3663 |
| Kewanee O&G Co., Fee 17 (168.77-ac) | 11,000 | 3617 |
| W. W. Lechner & Hubbard & Son, J. M. Tuttle 6 (24.65-ac) | 9700 | 3559 |
| Magnolia, R. L. Saulter 8 (55-ac) | 9800 | 3650 |
| Marine Prod. Corp., W. H. York 6 (41-ac) | 12,000 | 3525 |
| Mudge Oil Co., J. W. Free 13-A (105-ac) | 7600 | 3710 |
| Reynolds-Kimberlin Oil Co., Perry 3 (5-ac) | 11,000 | 3628 |
| Shell, H. Hampton 15 (162-ac) | 7200 | 3660 |
| Smith & Darough, C. C. Clemens 5 (31-ac) | 9800 | 3632 |
| Sparkman-Reusch Drlg. Co., E. E. Stone 1 (50-ac) | * | 3700 |
| Sun, A. J. Watkins 5-A (55-ac) | 3600 | 3688 |
| Tide Water, Lake Devernia 28 (270-ac) | 12,000 | 3530 |
| Twin Oil Co., M. Bonner 13 (148-ac) | 4800 | 3634 |
| United East & West Oil Co., Sabine River 2, Tr. 2 | 5700 | 3591 |
| **MISCELLANEOUS COMPLETIONS** | | |
| ANDERSON COUNTY (Cayuga Field)— | | |
| Tide Water-Texas Seaboard, Ella L. Harton 1 | 3500 | 4078 |
| M. N. Wills 4-A | 3000 | 4093 |
| N. N. Wills 5-A | 1000 | 4081 |
| VAN FIELD— | | |
| Humble, Mrs. S. R. Ray 2 | 30 | 1244 |
| Sanger Inv. Co. 4 | 25 | 2936 |
| Pure Oil Co., J. A. Bracken 7 | 12,000 | 2960 |
| W. T. Jarmon 9 | 9600 | 2943 |
| A. P. Tunnell 11 (101.2-ac) | 10,500 | 2952 |
| **WILDCAT COMPLETIONS** | | |
| UPSHUR COUNTY— | | |
| R. S. Randerson-B. L. Watson, J. H. Minor 1 | * | 3891 |

*Failures; †Junked; ¶Million cu. ft. gas.

## Frio County Test Is Coring in Edwards Lime

San Antonio, Texas.—Amerada Petroleum Corporation topped the Edwards lime at 5990 feet and is coring into the formation in Halff and Oppenheimer 2, third well to be drilled on an 85,000-acre block in Frio County. The first core showed stains of oil and odor of sulphur water. What would be found on further coring is a gamble.

The well is located 2100 feet from the northwest line and 800 feet from the northeast line of the J. H. Gibson survey, five miles southwest of Pearsall.

It recently showed for some sort of producer in the Buda and Georgetown, but the intrusion of water and small amount of oil prompted the deeper drilling.

Tops of formations are as follows: Wilcox 1500 feet; Carrizo, 1280 feet; Midway, 2620 feet; Taylor, 4850 feet; Chalk 5200 feet; Buda, 5710 feet; Del Rio 5810 feet; Georgetown 5900 feet, and Edwards 5990 feet. Elevation is 540 feet.

A string of 9⅝-inch casing was run at 4952 feet to protect the hole. When the hole reached 5968 feet, a seven-inch liner was run to 5906 feet. It was perforated at 5710-16 feet and 5899-5905 feet, with open hole from 5906 to 5968 feet. This enabled a test of several showings encountered in the well at 5712-16 feet, sweet gas; 5733-56 feet, more gas; 5801-3, oil.

When tested at 5968 feet, it made several small heads of black oil, about six barrels, and bailed both oil and water. The oil was estimated at about a barrel an hour. The fluid level reached 2800 feet and could not be bailed below this level.

## Six West Texas Completions Produce

San Angelo, Texas.—An aggregate of 2990 barrels of new production was added by fields in West Texas last week through completion of six wells. Bulk of this production originated in the Howard - Glasscock County district after treating the lime producing horizon with acid.

Completions in West Texas during the past week follow:

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| GLASSCOCK COUNTY— | | |
| Continental, S. Gilbreath 2 | 175 | 2520 |
| Steve Currie et al, Sam Turner 1 | 95 | 2520 |
| Humble, W. R. Settles 3 | 640 | 2388 |
| Noble & Co., Edwards-Texas 2 | 1485 | 2218 |
| WARD COUNTY— | | |
| S. Caprito et al, J. B. Bennett-Pure 5 | 520 | 2536 |
| WINKLER COUNTY— | | |
| Tide Water, W. F. Scarborough 2 | 75 | 3016 |

*Failures; †Junked; ¶Million cu. ft. gas.

## Three Small Wells in West Central Texas

Ranger, Texas.—Six completions scored during the past week in West Central Texas included an equal number of shallow oil producers and failures. The three producers offered an aggregate of 206 barrels of new production.

Dean & Adkisson, Fort Worth operators, extended the Cook sand horizon of the Cook Ranch field, Shackelford County, about three-quarters of a mile to the south in completing W. P. Newell 2, C NW NW Section 87, E. T. Ry Survey, flowing 183 barrels of oil daily at 1444 feet. It has an elevation of 1798 feet, and topped the sand at 1438 feet. The first well drilled by the operators was a 10-barrel pumper in the upper pay, which yielded two small wells on nearby locations when Humble Oil & Refining Company sought production on the same lease several years ago. Dean & Adkisson have a solid block of 363 acres surrounding their flowing wells.

Completions in the district for the past week follow:

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| COLEMAN COUNTY— | | |
| W. H. Ehrle et al, G. C. Burk 1... | * | 320 |
| J. W. Reese et al, Tom Stevens-Sackett 1, Sec. 20... | * | 634 |
| SHACKELFORD COUNTY— | | |
| J. B. Baker Jr., Nail 1, Sec. 124 ¶2 & 10 | | 1434 |
| Dean & Adkisson, W. P. Newell 2, Sec. 87 ... | 183 | 1444 |
| E. T. Green et al, J. P. Morris 1, Sec. 200 ... | 13 | 1601 |
| Perry Manes et al, L. C. McKelvey 2, Sec. 9 ... | * | 975 |

*Failures; †Junked; ¶Million cu. ft. gas.

## Water Shortage Slows North Texas Drilling

Wichita Falls, Texas.—A sharp drop in completions in North Texas took place last week because of shortage of water for drilling in some of the most active areas in Archer, Young and Wichita Counties. New locations have not dropped off in proportion, so a heavy run of completions is expected shortly after the water situation is relieved by rainfall.

During the past week the district had 39 completions, as compared to 65 the previous week. Of the 39 completions there were 12 failures scattered among six counties, and 27 pumping or flowing wells, with an aggregate of 4827 barrels of new production. Montague and Wilbarger Counties contributed some of the wells that aided in giving the district a large volume of new production.

A comeback is being staged on property values, particularly semi-developed leases with flush production, and more trades are in prospect. The first deal of major proportions consummated in the district in several years was closed recently when Fain-McGaha Oil Corporation, Wichita Falls, purchased from George L. Pace, Duncan, Oklahoma, operator, two Archer County leases for $250,000 cash and an additional $225,000 payable from half of the production. This trade involved the Chas. S. Arnold 327-acre lease, with 15 completed wells, prorated to about 200 barrels daily, and the F. C. Green 160-acre lease, with 11 completed wells, prorated to about 100 barrels daily. Both leases are in the shallow lime area, and all wells are treated with acid upon completion. In previous years Fain-McGaha Oil Corporation has figured prominently in the sale of properties in the district to large companies.

Completions in North Texas during the past week follow:

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| ARCHER COUNTY— | | |
| Rhea Anderson et al, Ed. Barnett 1, Blk. 6 ... | * | 1438 |
| Bridwell Oil Co., Falls 4-C, Blk. 20. | 100 | 1097 |
| Falls 5-C, Blk. 20 ... | 100 | 1100 |
| L. T. Burns et al, Perkins-Farmer 3, Sec. 10 ... | 175 | 1603 |
| Perkins-Farmer 4 ... | 200 | 1610 |
| Jas. E. Foster & Son, S. L. Scott 1.. | * | 1292 |
| Golding & Cochran, F. C. Green 7.. | * | 1116 |
| Fain-McGaha Oil Corp., C. S. Arnold-Pace 14 ... | 300 | 1171 |
| C. S. Arnold-Pace 15 ... | 350 | 1172 |
| F. C. Green-Pace 11... | 700 | 1175 |
| W. B. Hamilton et al, W. I. Pace 15, Blk. 99 ... | 30 | 1145 |
| W. I. Pace 16, Blk. 99 ... | 30 | 1140 |
| W. T. Knight et al, Fee 1 ... | * | 1254 |
| Maxson & Panhandle Ref. Co., F. C. Green 22-B ... | 125 | 1098 |
| F. C. Green 23-B ... | 100 | 1104 |
| Geo. L. Pace et al, Abercrombie 7, Blk. 155 ... | 50 | 1146 |
| Perkins-Cullum Oil Co., Falls 11-C, Blk. 6 ... | 200 | 1183 |
| Pois-Shultz-Weaver, Green 25 ... | 200 | 1157 |
| Simms Oil Co., A. P. Nichols 6, Sec. 30 ... | 25 | 1598 |
| Staniforth & Ray, T. B. Wilson 7.. | 150 | 1600 |
| T. B. Wilson 9 ... | 250 | 1603 |
| CLAY COUNTY— | | |
| Bridwell Oil Co., Saner 2 ... | * | 1125 |
| COOKE COUNTY— | | |
| E. J. Ruwaldt et al, R. W. True 1.. | 30 | 1088 |
| MONTAGUE COUNTY— | | |
| O. V. Beck et al, C. L. Davenport 3 ... | 550 | 1703 |
| Continental & Seitz, Holt 2 ... | 75 | 1625 |
| Texas, R. Cunningham 4-B... | 25 | 918 |
| JACK COUNTY— | | |
| N. H. Martin & Son, J. Bloodworth 2 ... | 7 | 306 |
| WICHITA COUNTY— | | |
| King Royalty Co., Waggoner 1-H.. | * | 1084 |
| Palmer & Burch, M. Stone 1 ... | 75 | 1907 |
| WILBARGER COUNTY— | | |
| Consolidated, Waggoner 2-T, Sec. 35 | 550 | 1900 |
| Waggoner 1-U, Sec. 36... | * | 1947 |
| W. B. Hamilton et al, Waggoner 5-L, Sec. 49 ... | 15 | 1294 |
| J. B. H. Henderson et al, Waggoner 1-A, Sec. 35 ... | 400 | 1881 |
| YOUNG COUNTY— | | |
| Bledsoe & Watson, A. C. Watson 1, Sec. 250 ... | * | 674 |
| Heydrick & Clower, R. C. Howard 1, Sec. 1366 ... | * | 890 |
| Kleiner-Hill & West, C. W. Langston 53, Sec. 1490 ... | 10 | 587 |
| Maso, Inc., A. Williams 1 ... | * | 654 |
| H. L. Singleton et al, M. Henderson 1 ... | * | 2650 |
| Wooten & Reed, J. A. Watson 1, Sec. 1910 ... | * | 563 |

*Failures; †Junked; ¶Million cu. ft. gas.


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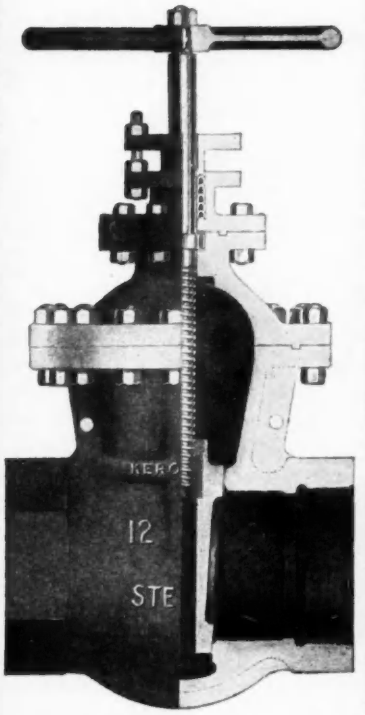


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# Schleicher County Test Shows Favorable Possibilities

San Angelo, Tex.—Schleicher County's bid to join the ranks of producing counties in West Texas were enhanced late last week when an increased gas flow followed the deepening of John M. Cooper et al's wildcat on the Bert Page ranch, located nine miles southeast of El Dorado, to a depth of 5457 feet. This test began showing gas in the Bend lime series at 5390-5404 feet, and increased to 3,800,000 cubic feet daily at 5453 feet, and when deepened to 5457 feet was rated good for 5,000,000 cubic feet of wet gas daily. Evidence of an oil spray with the gas has raised the hopes of owners that an oil producer may be uncovered. The wildcat is located near the center of NW Section 40, Block "L", G.H.&S.A. Ry. Survey, having been taken over from Munger-Wilson Oil Company at 5055 feet last March to complete a 6500-foot contract depth.

Landreth Production Corporation's Texas Pacific Land Trust 1-A, southern most producer in the North Cowden field, Ector County, was converted into one of the largest producers in the field after being shot with 290 quarts of nitro after plugging back from 4298 feet to 4250 feet because of bottom hole water. This outpost flowed 585 barrels of pipe line oil during first 17 hours gauge, and averaged 32 barrels per hour for the last four hours. The gas flow is estimated at 4,000,000 cubic feet daily. The well is located in the NEc NW Section 3, Block 43, T&P Ry. Survey, T-1-S, and will require three offsets of Stanolind Oil & Gas Company and Continental Oil Company.

A new field for Northwestern Ector County was considered definitely in the making when C. J. "Red" Davidson, Fort Worth drilling contractor and operator, developed 2500 feet of oil in hole at a total depth of 4335 feet. Operations were temporarily halted at the above depth while awaiting the outcome of a prospective sale of leases. This wildcat encountered first oil saturated lime at 4267 feet while carrying a flow of 4,000,000 cubic feet of dry gas production from upper section of the lime horizon. Geologists conversant with this area are of the opinion that the well is on the edge of the structure, and that it is now near the normal water level. It is understood that Davidson may not risk bottom hole by deeper drilling, but will give the well a shot, as it has excellent prospects of being converted into a commercial producer.

A heavy flow of water blasted the efforts of Humble Oil & Refining Company to develop production from its deep Pecos County wildcat test on the White-Baker ranch after drilling to 9783 feet, or 7068 feet below sea level. The test filled up at rate of 100 barrels of water per hour when formation test was made at 9690-9768 feet, this being the Ellenberger, or expected producing member of the Ordovician lime horizon. Numerous drill stem tests made at intervals since encountering the first Ordovician at 8040 feet and top of Ellenberger limestone at 9385 feet failed to show oil, gas or water until the heavy flow appeared at the 9700-foot level. Operations on the test have been temporarily suspended to enable the owner's geophysical department to conduct a series of tests, with recording instrument placed at varied depths in the hole when surface shots are set off.

### Upton County Deep Test

The deep test of Gulf Production Company on the J. T. McElroy ranch, Upton County, was drilling slowly below 10,420 feet in very hard formation identified as the upper section of the Ordovician, which was topped at 10,167 feet.

John I. Moore, Loffland Brothers et al's L. S. McDowell 1, Glasscock County wildcat and projected 8500-foot test, failed to score production in the 2200-foot lime horizon as anticipated, but encountered 1800 feet of sulphur water at 2655 feet while drilling with cable tools. Plans are to continue with cable tools as long as good progress can be made. A string of 10¾-inch casing was set at 2187 feet to prepare for shallow production, but the pipe was not cemented.

Simms Oil Company's W. D. Johnson 1, first deep producer on the north end of the Grand Falls district, Ward County, encountered sulphur water at 2932 feet after passing up oil sand at 2910-2920 feet capable of producing 50 barrels of high gravity oil daily on natural flow. This well is in the east corner of Section 28, Block 34, H&TC Ry. Survey, and will be plugged back to complete in the new pay zone for the area.

The wildcat test of L. G. Bradstreet, H. R. Randall, Fort Worth operators, et al on the L. W. Sheppard-Monroe land is preparing to resume drilling after being idle for some months at 1000 feet. This test is exploring a geophysical high that served as the basis of comparatively high prices being paid by majors for lease protection. Bert Fields, Dallas contractor, is moving in equipment to deepen the test, having acquired a quarter interest in the test and 80-acre site, plus a cash consideration. It is located 2310 feet from the northeast and 330 feet from the southeast lines of Section 77, Block 34, H&TC Ry. Survey.

Harold Byrd and Jack Frost, Dallas, are preparing to drill a wildcat to the Delaware lime horizon in the northwest part of this same block and survey, having contracted to make a 5000-foot test in Section 169, near center of a 12,000-acre block.

## Phillips Building 100 Houses at Borger

Borger, Texas.—Phillips Petroleum Company, largest oil producer in the Texas Panhandle and operator of the largest interior refinery in Texas, is starting construction work on 100 dwellings near its Borger plant to accommodate employees and their families. These houses will be equipped with all modern conveniences.

## New Gray County Area Showing Up Spotted

Pampa, Tex.—The Texas Panhandle contributed six producers during the past week, involving an aggregate of 2685 barrels of oil and 54,500,000 cubic feet of gas on initial gauges. There were five oil wells and a single dry gasser.

Offset tests to the largest oil producer in Gray County had drilled past the expected producing horizon last week without showing for producers, indicating that the semi-wildcat territory opened up in the eastern part of the county last month by Vulcan Petroleum Corporation's M. H. Kinard 1, NWc SW Section 41, Block 25, H&GN Ry. Survey, will be spotted and irregular. Kinard 1 earned a potential rating of 2500 barrels daily, and an allowable of 430 barrels daily on the June 1 proration schedule from shattered granite wash formation at a total depth of 2378 feet. Empire Gas & Fuel Company's L. H. Webb 1-B, a west offset, had failed to show for an oil producer after drilling to 2535 feet, although it passed up the usual heavy flow of dry gas in lime at 2080-2190 feet. Skelly Oil Company's R. W. Bailey 2, a north offset to the latter and a diagonal northwest offset to Kinard 1, likewise had

failed to encounter oil in drilling to 2590 feet. These two tests are not definitely eliminated until salt water appears, but chances for oil production are considered slight, as both are below sea level depth.

Completions in the Texas Panhandle during the past week follow:

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| GRAY COUNTY— | | |
| D. O. Lilly et al, Hughey-Gulf 1 | 275 | 2999 |
| Saulsbury Oil Co., J. E. Cubine-Magnolia 1 | ¶51⅓ | 2280 |
| Skelly Oil Co., J. F. Vicars 11 | 345 | 3284 |
| Wilcox O&G Co., Combs-Worley 27 | 1200 | 2921 |
| WHEELER COUNTY— | | |
| Alma Oil Co., Johnson-Gulf 2 | ¶3-640 | 2461 |
| El Bar Corp., J. M. Noel 2 | 225 | 2447 |

*Failures; †Junked; ¶Million cu. ft. gas.

## Texas Drilling Permits Continue to Decline

Austin, Texas.—The number of permits obtained by operators to drill new wells in Texas continued to decline during the past week. Only 159 permits were granted.

During the six weeks beginning with the first of May, more than 300 permits were filed each week. The decline which began about 10 days ago followed an order of the commission issued on May 29, which required that a hearing be held on every exception to the spacing rule.

During the past week only 39 new locations were granted for East Texas. The average during the six weeks mentioned above was 150 per week.

Southwest Texas showed a slight increase this week, with a total of 47 new locations filed. Only 10, however, were filed in the Gulf Coast area. Panhandle operations continued high with a total of 19 new locations, most of which were in Gray and Wheeler Counties.

## Attempt to Extend Luling Field Fails

San Antonio, Texas.—An attempt to extend the old Luling field of Caldwell County to the northeast, or to develop a new pool in that area, failed with the abandonment of Floyd C. Dodson and Bill Hinton's Smith Estate 1, Samuel Shupe survey, which was bottomed at 3036 feet. It topped the chalk at 2564 feet; Del Rio 2883 feet; Georgetown 2929; and Edwards lime at 2984 feet. The elevation is 545 feet.

Considerable blocking is going on along the Edwards lime trend of Caldwell County, which will bring about the drilling of several wells within the next few weeks. One of particular interest is Wagener, Daniels and Stieren's S. M. Blackwell 1, John Roe survey, which already has spudded and set surface casing.

## Two New Fields May Be Opened in Refugio

San Antonio, Texas.—One new field was virtually assured, and a second seemed possible in Refugio County last week. Both wells are in the vicinity of the already heavy producing district.

Quintana Petroleum Corporation's T. O'Conner 1, southwest corner of Block 3, Swisher Survey, four miles southeast of the Greta field, showed 10 fourbles of oil, 165 pounds pressure in 10 minutes on a drill stem test through ¼-inch chokes set top and bottom. Casing is being run. The oil is 41.4 gravity corrected. The sand is at 5574-80 feet.

This well recently showed 825 pounds pressure through ¼-inch chokes in 10 minutes on a drill stem test from 4912-50 feet. There was a slight bit of high gravity oil recovered.

The potential producer is on a block of 4000 acres and a heavy drilling campaign is not to be expected. It is understood that Humble Oil & Refining Company has a heavy interest in the well and block, although this cannot be confirmed. Humble, however, is the owner of several pieces in the general vicinity.

The other wildcat prospect is in Bonnie View district, southwest of the Refugio field. It is Holland Oil Company's Peck 1, Section 24. The well recently showed for a gasser spraying a quantity of distillate from 5351 feet. A deal is now being made to carry the well a little deeper into the horizon and complete it.

Majority of Greta field's present operations are centered around the deep sand producing in three wells on the east side of the field. Atlantic Oil Producing Company and Stanolind Oil & Gas Company got the sand at 5919-29 feet in J. J. O'Brien 6-A, and has set casing. The well is a quarter of a mile due south of 5-A, a producer at this level. Sand conditions in both wells are about the same, so a good producer is expected. Humble Oil & Refining Company has one well below 5775 feet; Nesral Oil Company and Baymore has one well be-


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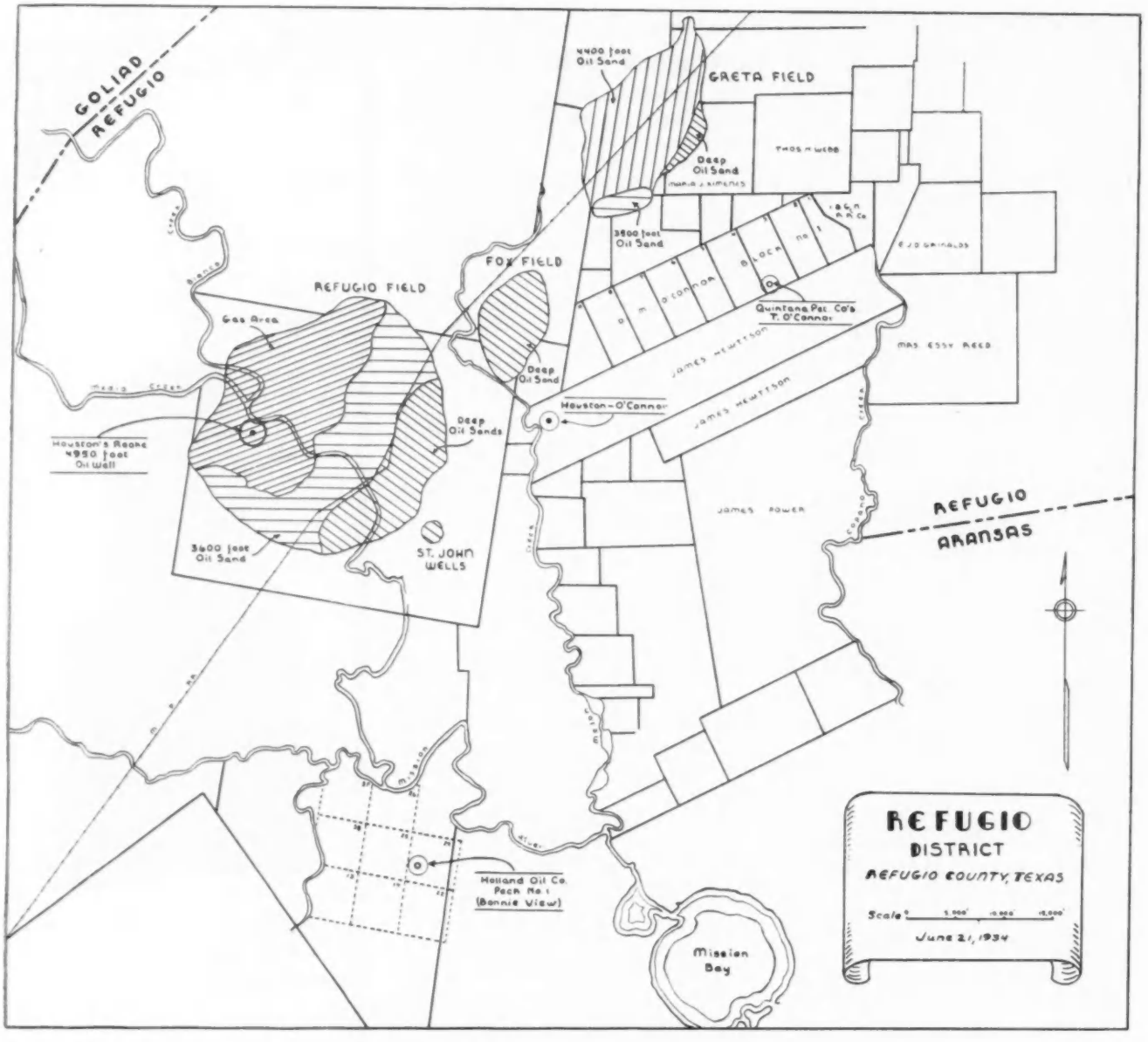



low 2500 feet; Standard Oil Company of Kansas, one well below 5875 feet, and location for a second; United Production Corporation one below 5750 feet and another at 5940 feet. All are headed for the deep sand.

The 4400-foot sand is about drilled up, although eight rigs are running on tests projected to this sand. Floboots Oil Corporation is drilling three; Hewitt and Daugherty, one; Humble Oil & Refining Company, three; United Production Corporation, one. Three producers were completed in this sand during the week. One by Floboots and two by Stanolind. Hewitt and Daugherty's Lambert 5 blew out from around 3500 feet, ran wild and cratered.

Two wells are being drilled by Houston Oil Company in the 4950-foot sand area on the west side of the old Refugio field. Rooke 13 is down 3275 feet, while W. J. J. Heard 14, is making progress below 2000 feet.

# Wildcats Hold Interest Of Duval County

San Antonio, Texas.—Duval County's main interest at this time centers around several wildcats going to the Government Wells sand, but down dip from the main field. They exepect to pick up the horizon between 2500 and 3300 feet, instead of at the customary 2000-2300-foot levels now producing.

Continental Oil Company is drilling at a shallow depth on Clara Driscoll Sevier 2-A, Section 448, northeastern portion of the Driscoll field. One well, Driscoll Sevier 1-A, to the southwest, already is producing from the Government Wells sand at 3300 feet.

Along the Hoffman trend, where two gas wells have been completed in the Government Wells sand below 2700 feet, several wells are getting underway. Ralph Lewis and O. N. Beer are below 1000 feet in W. R. Peters 1, four miles east of the North Kohler field and about the same distance southwest of Conway & Campbell's Hoffman gasser. Ralph Lewis, interested in this well, will drill two more along the trend, regardless of the outcome of the first test.

Two interesting wells are being drilled west of the Government Wells field. Magnolia Petroleum Company's Duval County Ranch 1, northeast corner Section 58, and more than a mile west of production, is down about 2400 feet after testing salt water in the Government Wells sand at 2315-20 feet.

## Angelita Well Will Be Re-completed

San Antonio, Texas.—Circle W Oil Company will make another attempt to complete Welder 1, in the east corner of Tract 5, Villareal Survey, in the new Angelita field of San Patricio County. The well went to 6017 feet, but has been plugged back to 5100 feet, where it will sidetrack and go into the sand again. The well recently was completed as a producer at 5358-78 feet, showing about 250 barrels of fluid daily on ¼-inch choke, about 60 percent of which was salt water. The well is 1500 feet northwest of the discovery test.

Two new operations have been started in the field, both by Continental Oil Company and Atkins and O'Neil, who opened this district. Welder 1-A, Block 2, Villareal Grant, 2000 feet southwest of the discovery, is drilling below 1000 feet of surface casing. Welder 2, 932 feet southeast of the discovery, has been spudded.

Up in the Sinton field, Plymouth's Welder 2-A, just east of the discovery well, is drilling at 4230 feet, while 1-B, northwest of the discovery well, is waiting on cement after setting 1197 feet of surface casing. Petrol Corporation is moving in for another test in the field, while Heep Oil Corporation is waiting on a permit for a well to be drilled at the north limits of the Sinton townsite.

## South Texas Operators Complete 27 Tests

San Antonio, Texas.—Ten producers, eight oil wells and two gassers, were included in the week's list of completions in the South Texas district. Greta and Government Wells were in the lead, although several came from new districts just beginning development campaigns. They follow:

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| ATASCOSA COUNTY— | | |
| Texas Petroleum Co., Masterson 2, 290 ft el and 280 ft s No .1, G. N. Mott Sur. No. 386 | * | 2018 |
| BEE COUNTY— | | |
| J. L. Tippitt, Laura Weiss 2, 685 ft e No. 1, B&B sur. | * | 100 |
| Houston Oil Co., R. C. Miller 1, F. Lewis sur, csg set to bottom, perforated 3018-50 | ¶25 | 3404 |
| CALDWELL COUNTY— | | |
| Floyd Dodson and Bill Hinton, Smith Est. 1, 250 ft nwl, 750 ft swl tract, S. Shupe sur | * | 3036 |
| Joe E. Mills, Emma Johnson 1, e Lockhart, 1126 ft along nel from e cor, thence sw 170 ft at rt angles of B. Ellison 60.4 ac lease, J. Pinchbak sur | * | 2110 |
| DUVAL COUNTY— | | |
| Eagle Hill & SR&C Oil Co.'s Foster 1-C, Sec. 270 | * | 2205 |
| Parr Oil Co., Duval County Ranch 1, Sec. 363 | 360 | 2274 |
| Reynosa Oil Co., Duval County Ranch 5-D, Sec. 362 | 362 | 2304 |
| Russ Petroleum Corp., S. Cantrell 1, Sec. 61 | 12 | 2315 |
| Southwest Drilling Co., Wendt 13, Sec. 43 | 750 | 2254 |
| HIDALGO COUNTY— | | |
| Shankle et al, Garza 1, center n 40 acres of Share 14, Por. 41 | * | .... |
| KARNES COUNTY— | | |
| Lovering et al, T. R. Goff Jr. 1, 600 ft nel & 725 ft nwl 208-ac tract, in Martinez sur | * | 3005 |
| S. W. Forrester (Krause et al), Miss M. Ruckman 1, 1208 ft wl and 500 ft nl 642 ac tr, Musquiz sur, Blks. 29, 30, 31 | * | 3262 |
| LA SALLE COUNTY— | | |
| Geo. O. Ball, J. M. Martin 1, 300 ft s&wl, Martin 485.6-ac tract out of east part Sur. No. 683, 1 mi e Atlee | * | .... |
| NUECES COUNTY— | | |
| A. C. Erwin, Kain Sechrist 1, 330 ft n and wl 470-ac tr, Blk. 23, Russell sur | * | .... |
| REFUGIO COUNTY— | | |
| Floboots Oil Corp., J. M. O'Brien 2-C, Blk. 15, Winfield sur, ¼ and ¾ in. chokes | 214 | 4380 |
| Hewitt & Dougherty, M. F. Lambert 5, Blk. 18, E. W. Harper sur, blew out, cratered | * | .... |
| Stanolind Oil & Gas Co., O'Conner 4, N. S. Crunk sur, 3/16 choke | 120 | 4385 |
| O'Brien 6-B, Lot 9, Winfield sur, 3/16 choke | 244 | 4384 |
| SAN PATRICIO COUNTY— | | |
| C. B. Bunte, Inc., Smith 1, 2338 ft el and 819 ft nl tract, A. Armstrong sur. | * | 6030 |
| STARR COUNTY— | | |
| Goodwin & Yantis, Kelsey Bass 5, Blk. 8, Sur. 2, Por. 86-87 | ¶10 | 685 |
| WEBB COUNTY— | | |
| United Prod. Co., Bruni Estate 1, 418 ft nel and 260 ft nwl Blk. 42, Sec. 8, Adams Sub, Arispe Grant | 60 | 3418 |
| WILLIAMSON COUNTY— | | |
| G. L. Rowsey, Trustee, Henry Sladek 2, H. White sur | * | 1250 |
| Alexander Drlg. Co., Kleig 1 | * | 1550 |
| McLean et al, R. C. Miller 2, 800 ft sl and 100 ft wl of tract, B. Manlove sur. | * | 2300 |
| WILSON COUNTY— | | |
| A. L. George, Fee 1, 160 ft sel and 300 ft swl, 86.32 ac tr, C. Diaz sur | * | 976 |
| Pfeil & Vogel, Joe Gutzeit 1, 150 ft nwl of tr and 150 ft n rd, Francisco Flores 4 League | * | 810 |

*Failures; †Junked; ¶Million cu. ft. gas.

## Vanderbilt Pool Second Test Has Hard Luck

San Antonio, Texas. — Encino Gas Company has had hard luck with its second prospect in the new Vanderbilt field of Jackson County. Simon and Seidel 1, northeast offset to the discovery well, went to 5585 feet, showing salt water. Attempts to make cores from the probable top of the horizon to near the total depth resulted in no recovery, the bit finally going too deep into the sand. It is presumed that the top of the sand is just about 5540 feet, which would be higher than the discovery test. The well has plugged back to about 5500 feet and is to sidetrack and core in again.

The discovery well is flowing an average of 500 barrels daily through ¼-inch chokes.

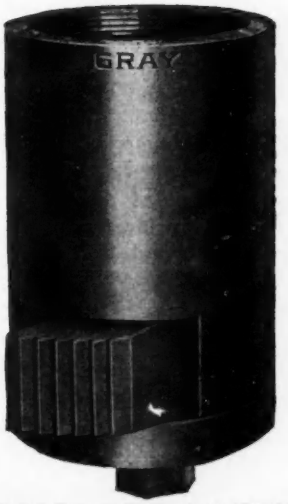
Encino has Drummond 1, 4200 feet west of the discovery well, and American Realty and Investment 1, in the Vanderbilt townsite, ready to spud.

## 2800-Foot Sand Yields Pumper in Raisin Field

San Antonio, Texas.—Petrol Corporation apparently has a pumping well in Machalec 1, in the Raisin field of Victoria County. It is the first successful completion in the 2800-foot sand, which had shown in previous attempts in the field, but never before put on production.

The well topped the sand at 2839 feet, set seven-inch casing at 2828 feet, and has a depth of 2875 feet. It is being swabbed with about 500 feet of oil standing in the hole. The gas pressure, however, will not kick in and it is likely to be put on pump.


GRAY BACK-UP TOOL

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## Rules for Development of South Texas Fields Issued

Austin, Texas.—New rules for spacing, drilling, completion and operation of wells in the New Pettus field, Bee County, and Welder field, San Patricio County, were issued by the Texas Railroad Commission effective on June 14.

No allowable figure was set for either field, but a formula was included which distributes the allowable on the acreage basis as follows:

A maximum gas-oil ratio of 1500/1 was provided in each order, with a total displacement allowance for wells whose gas-oil ratio is excessive.

In the New Pettus field 10-acre spacing is provided, with wells 330 feet from lease or boundary lines, and 660 feet apart. For proration purposes, no well may be assigned an allowable for a unit larger than 15 acres.

Two strings of casing are required in this field, and the usual tests are included.

In the Welder field wells are spaced 466 feet from lease or boundary lines and 933 feet apart. Thus, wells will be on a 20-acre unit. The total acreage assignable to any one well for proration allowances is 25 acres.

Three strings of pipe are required, and the first string, at least 400 feet, must be cemented to the surface or base of the cellar.

## Start Deep Ft. Bend County Wildcat Test

Houston.—Gem Oil Company is making location for a deep test on the Robert Hodge Survey in Ft. Bend County. The new well will be located south of the Needville prospect in the Farmer 200-acres tract, 330 feet from the northeast corner. Humble Oil & Refining Company has a large block in the vicinity. It is reported Stanolind Oil & Gas Company bought a large amount of acreage, paying $100 per acre.

Gem Oil Company has approximately 3000 acres south of the Humble Oil & Refining Company's large block in the Needville area, located in the E. Jones Scott Survey, and all the Joel League, all the C. N. Hollingsworth Survey. North part of Geo. Dedrich, southeast portion of Simon Miller and some acreage in section 39 and 48 of the H. & T. C. Survey, also 200 acres in the south side of the Robert Hodge Survey. The well will be drilled on a spread of 320 acres.

Coastal Oil Finding Company has been working this area with torsion balance crews. They have been working the Hodge Survey and also the Needville area. To the north and slightly west of the Needville prospect, Tide Water Oil Company has been working the BBB&C No. 5, 6, 7, 8 and 9 Surveys, also the Northington survey. Independent Exploration reflection crews have been doing the work.

## Important Brazoria Location Is Made

Houston.—Amerada Petroleum Corporation has made location for Houston Farms Development Company 1, located 1414 feet north of south and 316 feet west of east lines of the L. G. Bachelder Survey, Brazoria County. The well is located on the east bank of Chocolate Bay and south of Liverpool. The prospect is known as the Rattlesnake Mound prospect.

The leases that Amerada Petroleum Corporation purchased in this area have attracted attention for more than 30 years. After geophysical work by Cockburn Oil Company, with torsion balance, a deep seated salt dome was reported and was later checked by Rossarie and Kennestine by reflection seismograph. This work was carried on for some time. Amerada Petroleum Corporation also purchased from the State of Texas submerged lands lying in Chocolate Bay, West Bay and Hall's Lake. It is reported Amerada Petroleum Corporation spent $200,000 for geophysical work and leases in this district. The company holds 14,000 acres of leases in a solid block, with the exception of such acreage as was reserved by Cockburn Oil Company.

The well will be drilled to 8000 feet if necessary to test probable producing horizons. Noble Drilling Company has contracted to drill this deep test, and is now moving in heavy rotary equipment. Amerada Petroleum Corporation has purchased a 122-foot steel derrick, and plans to set 22-inch pipe as a conductor, then run 16-inch and 11¾-inch strings as a starter on its casing program.

Amerada crews have been working for the past month in boats in West Bay, near the T. Martin ranch with reflection instruments. Other geophysical crews are working in the county. Harrison & Abercrombie reflection crews are west of Swenney and west of O. Jones Survey and in the C. Breen Survey. The Texas Company has two torsion balance crews northeast of Swenney and a reflection crew in the Hastings area. The same company has two torsion balance crews working the area around Old Ocean and Toleman. Stanolind Oil & Gas Company is working with reflection instruments in the C. Smith and Bailey Surveys, west and east of East Columbia. Gulf Production crews are working with torsion balance south of Algoa, in and around H. & T. B. Survey No. 9, A-223.

Harrison & Abercrombie are taking all the small tracts, it is reported, in the Oliver Jones Survey, also buying in the Chance & Polly, Johnson, Walker and Barey, Battle, Berry and Williams Surveys, around the Old Ocean prospect. They also obtained an extension on their block in the same area as McDonald. Danciger Oil Company has taken 2300 acres in Grey and Moore Surveys, east of Pledger, paying $26,000 in cash. Town tracts are leasing for $10 per acre, in the Old Ocean area.

## Walker County Test Tops Hockleyensis

Houston.—Strake Petroleum Corporation's Thompson 1, two miles southeast of New Waverly near the Walker and Montgomery County lines and in Walker County, topped the Hockleyensis from 2903 to 2923 feet with an elevation of 300 feet. It is reported by several of the oil operators that the well is running about normal as compared to other wells that have been drilled in this area. At the close of the week the wildcat was drilling below 4300 feet.

## Plan 7000-Foot Test For Austin County

Houston.—It is reported that R. A. Johnson will drill a 7000-foot test south of New Ulm in Austin County. The test will be on the A. Kuydendall Survey, A-243. The tentative location is the west side of A. Wangler 132.2-acre tract in the above survey.

W. H. Schafer et al is making location for a deep test in Ft. Bend County, approximately 693 feet southwest of the northeast line and 1003 northwest of the southeast line of Section 52 in the H. & T. C. Survey, on the V. B. Bortosh 80-acre tract.

## Seismograph Crews Working in Natchitoches

Shreveport, Louisiana.—L. E. Randall of Houston, Texas, is reported to have six new type seismograph reflection instruments at work in Natchitoches Parish, Louisiana, working in the Black Lake, Powhatan and Spanish Lake areas. The crews are reported to have worked westward from the Mississippi River taking a series of shots at four-mile intervals, from the Mississippi to the Red River.

## Harris County Activity Increases

Houston.—Midland Oil Company of Louisiana was moving in material late last week and probably will spud in over the week end on its deep test at Little York. This wildcat will be carried to 6500 feet unless commercial production is found in shallower sands.

The well is located in the Highland Heights east of the Houston-Conroe highway in the H. & T. C. Survey No. 1, on the Gonley tract.

Golding & Cochran have blocked between 2000 and 3000 acres in this area from 200 property owners. There have been about 15 wells drilled in this region during the past 30 years and a majority had gas shows. Two of the tests blew out. Humble Oil & Refining Company drilled the deepest well in the district, which was abandoned at 4200 feet.

The well is on a geophysical picture worked out several years ago, which showed indications of a structure. Surface geology on this prospect was enough to convince several geologists that commercial oil may be found. The well is located about 5½ miles north of Houston city limits.

Loring Oil & Gas Company's Westmoreland 1, located west of the city limits of Houston, set 12½-inch casing at 1146 feet. The well was down to 2100 feet at the close of the week.

On the Ogburn prospect, six miles south of Cypress, General Crude Oil Company's Rorick 1, J. C. Ogburn Survey, was completing its derrick.

## New Locations Staked In Splendora Area

Houston.—Steen Drilling Company's Texas Long Leaf Lumber Company 1, in the Splendora area of Montgomery County, was making 30 barrels of 65.2 gravity distillate per day through a quarter-inch choke on the tubing late last week. The quarter-inch choke was taken off the casing as the operators were burning to much gas. Tubing pressure was reported at 1100 pounds and the casing pressure was 1175 pounds. The distillate is being sold to the Phoenix Refinery at Harrisburg for $1.26 per barrel. The refinery is hauling the distillate away in trucks. It is estimated that the well will make 80 barrels per day.

Humble Oil & Refining Company has made location for its Anna M. Platte 1, 466 feet south, 1100 feet west of the northeast corner of 100-acre tract in the W. Barker Survey. Derrick is now being built. The company will spud in during the coming week.

Brown & Wheeler have made a tentative location also in this area. The well will be known as the Jones 1, and is located 440 feet from northwest of south 175 acres of 350-acre tract in the W. Barker Survey. This location is approximately in the center of the Survey. It is also east of the discovery well.

## Waller County Test Has Been Abandoned

Houston.—Amerada Petroleum Corporation and Stanolind Oil & Gas Company's Mary Manor 1, near the Harris County line in Waller County, was abandoned late last week at 6713 feet. This important wildcat was unsuccessful in completing a fishing job.

Top of the Catahoula was found at 2110 feet, Frio 2822, Operculina 6318, Camerina 6320 to 6327 feet, Cockfield 6338 feet, with an elevation of 187 feet. The well had an odor of gas from 6583 to 6601 feet, and down to 6611 feet a good distillate taste with a salty taste. At 6613 feet there was a good odor of gas with a salty taste. From 6595 to 6610 feet on a drill stem test the well showed 15,500,000 cubic feet of gas with a 350 pound pressure and 200 feet of cut oil with distillate, 400 feet of salt water was also shown. The tester was opened 10 minutes and a quarter-inch choke was used on bottom and a three eighths-inch choke on top.

A new location will be made south of this well in Section 99 or 100, in the H. & T. C. Survey in the vicinity of a unitized block of Stanolind Oil & Gas Company, Amerada Petroleum Corporation, Darby Petroleum Company, Tide Water Oil Company, and others.

## Conroe Deviated Test Ordered Redrilled

Austin, Tex.—An order of the Texas Railroad Commission issued on June 21 requires Adeltex Oil Company to work over its Llewellyn No. 2 at Conroe and drill a straight hole. Work must begin within 10 days, or the commission will file suit for violation of its deviation rule, the order states.

The Adeltex well was purchased after another company had drilled a hole into salt water. Adeltex whipstocked out and drilled northward at an angle, and the hole was bottomed some 300 feet north of the surface location. While the hole, from top to bottom, did not deviate more than five degrees from the vertical as provided in commission orders, the deviation was greater than this at several different points

At a hearing company representatives insisted they were within the rule. Offsetting lease owners declared that under their interpretation of the rule, it should apply to accidental, not intentional deviation. The commission agreed with this idea, and the new order resulted.

A clause was also included whereby this well "and any other well on the same lease shall share in the allowable production of said field to the extent that wells share therein on the acreage basis; only on the basis of acreage contained between the property lines of the lease on the north and east and the contour line of the water-oil contact." Adeltex had sought a full 20-acre allowance for this well.


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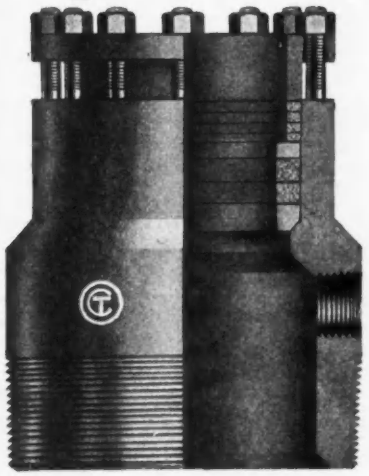

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## Texas Coast Is Active in Lease Work

Houston.—A number of very interesting leasing plays are taking place at this time in the Texas Gulf Coast. This activity presages considerable development in the future for the district, particularly in view of the fact that several of the leased blocks carry drilling obligations.

A wildcat test is to be commenced 2½ miles southeast of LaGrange in Fayette County, by M. H. Brown of LaGrange, who has obtained approximately 11,000 acres in the vicinity, including acreage in the Silas Jone League, A-260, the Anna Powell, A-25, and north one third of the R. Cravens A-37 League. Operations are to be started by July 1. There have been 13 tests drilled in this county, but no commercial production has been found as yet. Continental Oil Company's Anders 1 is the only active wildcat in this district. It is beneath 2860 feet in depth.

In Grimes County, J. H. Woodward has taken by assignment all of Robert P. Stewart survey, south of Richards, consisting of approximately 4800 acres. Consideration is a well to the Cockfield. The test will be started by July 8, 1934. The tentative location is on the Asam Lankonis 300-acre tract. The well will be located about three miles north and a little west from Smith & Cooper's Post 1, located in the D. Roper survey, on the west county line of Montgomery County. This well was abandoned at 4007 feet after penetrating the Cockfield 590 feet, having topped that formation at 3417 feet. It is reported that Texas Seaboard Oil Company has taken over the old Cambrien Oil Company block in the J. B. McNeely survey.

In San Jacinto County, Foster Lumber Company leased to the Piedmont Oil Company 2345 acres located in the Geo. Taylor survey, 750 acres in the northwest corner of J. Faulk survey, Abstract 3, and all the I&GN survey 478 acres. The consideration is a 5000-foot test. Phillips Petroleum Company is drilling the well for one half interest. The well is known as Phillips Petroleum Company's Foster Lumber Company 1, located about five miles south of Cold Springs, and is 330 feet out of the northeast corner of the G. Taylor survey.

The Texas Company has taken 8000 acres in northeastern Victoria County, and is to start a well within the next 30 days. All the titles are now being cleared. Humble reflection crew is working in the W. DeLeon and in the J. Costonon surveys.

An interesting play is going on along the Wharton and Matagorda County lines in the area between the Louise field, Leach and Hilje prospect (Wharton County) and Markham, Van Vleck and Pledger (Matagorda County). A block is being worked up east of Danevang near the Matagorda County line, in the following surveys: CC&SF, section 1, abstract 459; ETRR, section 103, abstract 105; A. T. Smith, section 9, abstract 549; ETRR section 93, abstract 100; L. R. Ogden section 104, abstract 533; F. C. Reynolds, abstract 671; CC&SF section 3, abstract 647; S. R. Hill, abstract 669; Hugh Witt abstract 350. The operators are paying one dollar bonus, one dollar rental for five year leases. Acreage is selling for $5 per acre in the east quarter of section 91, in the ETRR survey and in the southwest quarter of section 89, of the ETRR survey the acreage is selling for $16.50 per acre.

Sun Oil Company, southwest of Layne City, is reported to have taken leases, located in blocks 67, 68, 69, 70, 47, 48 and 49, in CWTRR survey, Selvesta Castlemen No. 5 and J. McCrosky, reported to be paying $5 to $6 per acre.

This area is being shot by several major oil companies and now The Texas Company reflection crew is working the Magnet and Lane City area. They also are working north of Danevang.

## Sour Lake Well Coring Ahead

Houston.—Alpha Petroleum Corporation's Weiss 1, 150 feet west of the Pharr well at Sour Lake in Hardin County, topped the Hockleyensis at 6275 feet and was coring ahead below 6500 feet at the close of the week. The same company's Kirby & West B-1, in Polk County, A. Viesca Survey, topped the Cockfield at 4809 feet and the Hockleyensis at 4006 feet, with an elevation of 139 feet. On a drill stem test from 4881 to 4899 feet three thribbles of oil, four thribbles of oil with salt water and four thribbles of salt water with a pressure of 60 pounds in 11 minutes was shown. A quarter-inch choke was used on bottom and a five sixteenths on top. From 4887 to 4899 feet, the well showed three thribbles of oil, 13 thribbles of oil with salt water and two thribbles of salt water. The pressure was 60 pounds and a quarter-inch choke was used on bottom and a three eighth-inch choke on top. The tester was open 14 minutes. A sand was found from 4864 to 4869 feet with an odor of gas with salty taste and to 4871 feet another odor of gas, to 4879 feet a good odor of gas, and to 4894 feet a good show of oil, to 4899 feet show of oil with streaks of shale but this show wasn't as good as the show at 4894 feet. This well is the fourth well in the field.

## Nineteen Completions In Texas Gulf Coast

Houston.—Texas Gulf Coast completions showed a marked increase over the previous week. The report shows 19 completions, of which 12 were producers. There were seven failures during the week. Conroe again lead the list of the completions with seven large producers. The initial production for the past week was 12,742 barrels.

Listed below are the completions along the Texas Gulf Coast:

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| BATSON— | | |
| W. G. Christian, B. D. Milhome 4,.. | * | 2197 |
| CONROE— | | |
| Alpha Pet. Corp., Keystone Mills B-3. | 1920 | 5090 |
| Gulf Coast Drilling Co., Keystone Mills 25 ..... | 470 | 5052 |
| Keystone Mills 26 ..... | 500 | 5042 |
| Humble O&R Co., Jones 5..... | 1104 | 5125 |
| Keystone Mills 28 ..... | 2400 | 5125 |
| So. Tex. Dev. Co. D-7..... | 2088 | 5124 |
| Sun Oil Co., Keystone Mills 13.... | 2208 | 5129 |
| GOOSE CREEK— | | |
| Edwards Drilling Co., Mathews 1.. | 175 | 4015 |
| HULL— | | |
| Gulf Prod. Co., Phoenix 102..... | 490 | 4095 |
| Miramar Corp., Phoenix B-4..... | * | 6075 |
| MANVEL— | | |
| The Texas Co., Ritchie 1..... | 91 | 4030 |
| THOMPSON— | | |
| Gulf Prod. Co., Booth 11.....1248 | | 5250 |
| TOMBALL— | | |
| Humble O&R Co., Kobs F. B-3.... | 48 | 5624 |
| BRAZOS COUNTY— | | |
| H. L. Bleam, Harrison 1, near Curtain, in the A. Allacorre sur..... | * | lcn. |
| JASPER COUNTY— | | |
| Alpha Pet. Corp., Franklin 1, ne of Spurger area E. Legrand sur..... | * | 5001 |
| MADISON COUNTY— | | |
| Hall Edwards, Flucher 1, n of Ferguson State farm, F. Flucher sur... | * | 6098 |
| MONTGOMERY COUNTY— | | |
| Humble O&R Co., Tex. Long Leaf Lumber Co. 1, 8000 ft n of Steen's well, Walker School Land sur.... | * | 6238 |
| WALLER COUNTY— | | |
| Amerada Pet. Corp. & Stanolind Oil & Gas Co., Manor 1, near the Harris County line H. & T. C. sur, block 1 ..... | * | 6713 |

*Failures; †Junked; ¶Million cu. ft. gas.

## All Four Louisiana Coast Completions Produce

Lake Charles, La.—Only four completions were reported in the Louisiana Coastal area during the past week. The Leesville field in La Fourche Parish lead the list of completions. There were no failures reported. The four wells produced at the rate of 3130 barrels of pipe line oil per day.

Completions for the past week along the South Louisiana area follow:

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| IOWA— | | |
| Magnolia Pet. Co., Wait 8 ..... | 850 | 6896 |
| LEESVILLE— | | |
| Emerald Pet. Corp., State of La. 6 | 600 | 3740 |
| Gulf Refining Co., Allen Land 3.. | 1200 | 3700 |
| Prince Oil Co., Cenac 2 ..... | 480 | 3650 |

*Failures; †Junked; ¶Million cu. ft. gas.

# Pure Sets Record String $10\frac{3}{4}$-Inch Casing at Sweet Lake

Lake Charles, La.—In successfully cementing 10¾-inch casing at 7410 feet in Yount-Lee 12, Sweet Lake field in Cameron Parish, Pure Oil Company has established a new Gulf Coast record for this size of string. A full 12⅜-inch hole was drilled to the cementing point, and no trouble was experienced in landing this long string of casing.

Yount-Lee 12 was spudded January 6, 1934. The well is located 800 feet south and 66 degrees, 42 minutes east from Yount-Lee 11.

A 24½-inch hole was drilled to 78 feet and a string of 18⅝-inch casing was cemented with 300 sacks of cement. From this point a 23½-inch hole was drilled to 1061 feet, where another string of 18⅝-inch casing was cemented. The size of the hole was reduced to 17½ inches and 13⅜-inch casing was set at 4523 feet. At 7410 feet the size of the hole was 12⅜ inches and at that depth the 10¾-inch casing was successfully landed. Eleven lines were used on this cementing job and the weight on the indicator ran from 75 to 100 points. Four hundred and fifty sacks of cement were used.

At 7410 feet, deviation from vertical was 1½ degrees. Down to 7200 feet the hole was straight.

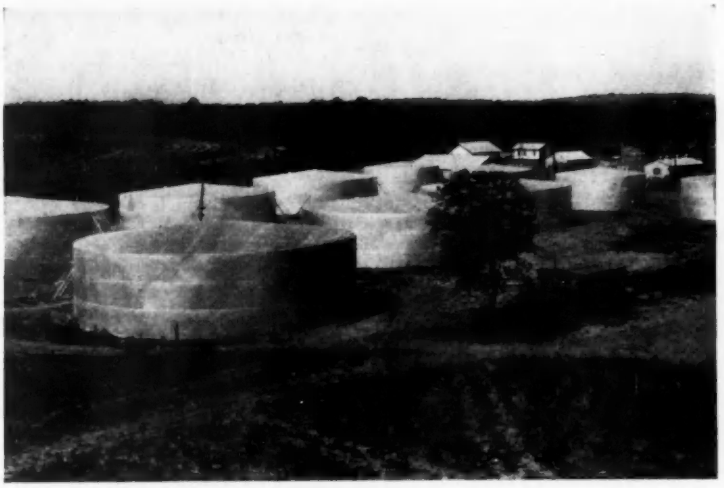
The operators used a mud cleaning machine and the mud was in perfect condition at all times and weighing from 9½ to 10 pounds and the hole was in perfect condition at all times, no fishing jobs were experienced on this test. The size of the hole has now been reduced and the company is drilling below 7459 feet.

This well has been drilling for the last six months and the operators are in no hurry, precaution has been taken, and cores have been taken frequently, this has caused slow progress in the test.

This well was the second test on the Louisiana Gulf Coast to land successfully a large string of casing. Shell Petroleum Corporation's Kratzer 1, the discovery well for the new Roanoke field in Jefferson Davis Parish and about mid-way between the Welsh and Jennings field landed a string of 9⅝-inch casing at 7527 feet. Like Yount-Lee 12, the Kratzer well had no difficulty. A full 12¼-inch hole was drilled to the cementing point.

A string of 13⅜-inch casing was cemented at 1509 feet with 450 sacks of cement in Shell Petroleum Corporation's well and then the size of the hole was reduced to 12¼ inches. At 4700 feet, deviation from vertical was found to be eight degrees. The hole was plugged back from 4010 to 3890 feet to straighten. Cement was drilled, but had not set enough, and the hole was plugged back for the second time. After sidetracking to 4004 feet, drill pipe was stuck at 3989 feet while surveying for deviation. The hole was cleaned out to the new bottom, and four-inch drill pipe was substituted at this level.

It was common practice to drill a small hole and ream to full size. An 8¾-inch hole was reamed to 12¼ inches between 3827 and 4164 feet, 4185 and 4483 feet, and 4153 and 4477 feet. Cores were taken regular on this well, same as Yount-Lee 12, and an electrical logging device was used. The 9⅝-inch casing was landed and cemented at 7527 feet with 528 sacks of oil well cement. The size of the hole was reduced to 8¾ inches and the well drilled to 8682 feet to where it was completed to open up a new oil field.

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## Further Extension Try at Converse Gets Gasser

Shreveport, La.—George L. Pace's De Soto Corporation 1, SW NE SW Section 27-10n-13w, Sabine Parish, half a mile west of a small oil well that extended production in the Converse field 2½ miles north, blew in last week from Annona chalk at 1946 feet making an estimated one million cubic feet of gas. Meanwhile the daily yield of the oil well half a mile away in Section 26-10n-13w, was raised from five barrels daily to 80 barrels daily.

One new location was announced in Converse last week, Valley-Osage Oil Company's A. J. Burkett 1, 330 feet south and west NEC SW NE Section 10-9n-13w.

In the Logansport district, De Soto Parish, J. T. McCormick et al have taken over Moore 1, NE NW Section 1-13n-15w, drilled to 66 feet where surface pipe was set, and will continue the hole. The block has been considerably augmented.

In Red River Parish, Tooke et al have taken over Kincaid & Kelly's J. Ober 1, Section 5-14n-10w, and are laying water line preparatory to resuming. This is the fourth owner for this test, which has gone to only 84 feet, where 10-inch casing was set.

## Million-Acre Florida Block May Be Drilled

Shreveport, La.—It is understood that William G. Blanchard, development engineer of Miami, Florida, who has been in the Shreveport district for the past several weeks, is trying to affect a five-party arrangement with some of the major companies for an extensive development program in Florida. The tentative contracts have been written and are being considered now.

The million-acre block of Mid-Florida Exploration Company on the Ocala Uplift is the basis of the proposed arrangement, which, it is reported, will call for the expenditure of $1,500,000 during a five-year period.

Blanchard also was a visitor in Houston for several days, leaving there for Tulsa.

## Test Started in Lincoln Parish After Trade

Shreveport, La.—J. P. Evans, Shreveport operator, who recently assembled a 20,000-acre block in Lincoln Parish in the Louisiana Basin, between the Sabine and Monroe Uplifts, last week assigned a half interest in this block to Eastern Texas Production Company, headed by F. W. Burford.

The latter company has spudded a 3500-foot test on the block, Givens Estate 1, SWC NE Section 2-17n-4w.

Evans only a few weeks ago sold a half interest to this same company in a 12,000-acre block in Bienville Parish on which a 3200-foot test was completed as a dry hole.

The Lincoln Parish test is on what is known locally as the "Grambling structure" on the south end of which Roxana Petroleum Company, about 10 years ago, drilled three tests, one of which reported an oil show.

Another block was reported assembled last week in the "play" that continues to gain momentum along the east side of the Sabine Uplift and in the Louisiana Basin. Jerry L. Ryan has assembled a 3000-acre block centering in Section 25-11n-1w, Winn Parish, for a shallow test to 1600 feet.

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Jackson, Miss.—Paul D. Torrey has completed seismograph work for Fred Courson et al of Pennsylvania, on a large block they hold in Lamar County, South Mississippi, "in the trend." A seismograph high has been worked out, the apex of which is in Sections 27 and 28-5n-15w. The reflections were secured from what is believed to be base of Claiborne and top of Wilcox.

## Louisiana July Increase All Goes to South Section

Shreveport, La.—Dr. J. A. Shaw, director of the minerals division, Louisiana Conservation Commission, empowered to allocate the allowable in this state, said Thursday when informed of the production figures for Louisiana of 88,900 barrels set by Secretary Ickes, that all of the 5,900 barrel increase over June would be applied in Gulf Coast fields in the southern part of the state. He said North Louisiana's allowable for June of 23,500 barrels would remain unchanged for July.

It is regarded as likely that practically all of the increase allowed Louisiana for July will be applied to the Iowa and Leeville fields, which are the most active in the Gulf Coast of the state at this time.

## Two Gassers Extend Rodessa Field Production

Shreveport, La.—Two gassers were completed in the Rodessa gas field of northwest Caddo Parish last week, both of which extended the producing limits of this field, which yields a highly saturated gas from the oolitic horizon of the Glen Rose at various depths from 5600 to 5870 feet, the deepest commercial production in North Louisiana. This brings the total in Rodessa to 14 gassers, with approximately 2500 acres of proven territory.

One of the wells, completed in Section 23-23n-16w, extended production two miles northeast into the town of Rodessa. It gauged 49 million feet with rock pressure of 2340 pounds. The other test completed in Section 28-23n-16w, extended production a half-mile northwest. It was completed at 5850 feet gauging 62,539,000 cubic feet of gas with rock pressure of 2275 pounds on a two-hour time gauge.

Two small pumpers were completed in the Converse shallow field of Sabine Parish, one by use of acid. Two small pumpers were also added in Zwolle, one of them by use of chemicals.

Completions last week in North Louisiana follow:

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| CADDO PARISH (Rodessa)— | | |
| Ark. La. Pipe Line Co., Rodessa Oil & Land Co. 1, se sw 23-23n-16w | ¶49 | 5626 |
| United Gas, Sallie Dees Unit 1, se se 28-23n-16w | ¶62½ | 5850 |
| CADDO PARISH (Vivian)— | | |
| A. F. Tarver, Muslow Oil Co. 1, nw sw 3-22n-15w | • | 1400 |
| MOREHOUSE PARISH (Monroe)— | | |
| Sterlington Gas Corp., Wright 1, 54-20n-4e | ¶18½ | 2140 |
| SABINE PARISH (Converse)— | | |
| Florence Oil Co., Cranford 2, ne sw 20-9n-13w | 15 | 1996 |
| Laurel Pet. Co., Frost Lbr. Co. 4, se nw 21-9n-13w | 12 | 2040 |
| SABINE PARISH (Zwolle)— | | |
| Irion & Eckert, Alford 2, nw nw 18-7n-10w | 7 | 2750 |
| George L. Pace, Garner 1, sw ne 15-7n-11w | 5 | 2591 |
| SABINE PARISH (Ayers)— | | |
| M. J. Kissick, Barr 1, sw se 6-4n-12w | • | 3720 |

Failures; †Junked; ¶Million cu. ft. gas.

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Shreveport, La. — A geophysical crew of the Arkansas Fuel Oil Company which has been working in Southeast Arkansas for some time is now working in Union Parish, Louisiana, near the village of Lillie.

## New Arkansas Work Is Looking Up

El Dorado, Ark.—Seven new locations were announced last week in Arkansas, being distributed over five counties. Miller and Union secured two new tests each, both in the former county being wildcats.

In Fulton County, northern part of the state, Salem Development Company has spudded I. S. Stephens 1, SWC SW SE Section 31-20-7w, four miles southeast of the town of Salem. A. G. Martin and W. S. Freazell of Los Angeles, California, are the main operators. Harry Freazell of Oklahoma is driller and W. P. Decker, Pennsylvania oil man, is interested in the block.

W. H. Harvey, who several months ago took over a number of the depleted shallow wells in the old La Fayette County, Arkansas, oil field, last week made location for A. M. Allen 1, 995 feet south

and 300 feet west center Section 18-19-24, La Fayette County.

The two locations made in Miller County are part of the leasing program that followed in the wake of the recently reported oil show in Woodbine sand at 3655 feet in a wildcat test in that county. Oilwell Oil Corporation has derrick up and is moving in rig for Burt Dodd 1, 300 feet south and 200 feet east NWC SW NE Section 10-19-28. This block was assembled by Sam E. Wilson of El Dorado, Arkansas. Beverly Oil Corporation erected derrick on its block for Commercial National Bank 1, SWC NE SE Section 30-17-28.

In the Ouachita County part of the Stephens area, J. D. Reynolds has spudded C. C. Guttry 1, 452 feet south and 150 feet west NEC NE SW Section 21-15-19.

In Union County, one semi-wildcat test was launched in the old Calion district, Alexander-Head Oil Company's Union Sawmill Company 1, 330 feet south and east NWC SW SW Section 28-17-13, and another location was made in the Urbana district by Marine Oil Company in its Union Sawmill Company B-2, 330 feet north and east SWC SW NW Section 2-18-13.

## Plan Five Tests on Big Arkansas Block

El Dorado, Ark.—A block of approximately 100,000 acres comprising almost half of Arkansas County, Arkansas, in the eastern part of the state, has been assembled by B. N. McMullin and Clint Grinnell of Oklahoma City, Oklahoma. Five tests are planned on this block. Dr. A. F. Crider, Shreveport geologist, had done geological work on the block.

Grinnell is president of the Fluid Packed Pump Company.

## Miller County Field Adds Oil Producer

El Dorado, Ark.—The Garland City field of Miller County, Arkansas, added a 345 barrel daily pumper last week, producing from two feet of sand at 2929 feet.

The only other Arkansas completion was a wildcat abandonment in Union County that showed considerable oil at 2161 feet in Nacatosh. The well went to 2680 feet.

Completions last week in Arkansas follow:

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| MILLER COUNTY (Garland City)— | | |
| Arkanva Oil Corp., Dr. Beck B-1, se se 33-15-26 | 345 | 2929 |
| UNION COUNTY— | | |
| E. R. Henderson, J. Vines 1, sw se 29-18-14 | • | 2680 |

Failures; †Junked; ¶Million cu. ft. gas.

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**LARKIN FLOAT COLLARS**

SEE COMPOSITE CATALOG OF OIL FIELD EQUIPMENT PAGES 258-259

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***For Testing Petroleum A. P. I. and A. S. T. M. Standards***
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HOUSTON, TEXAS

# New Lea County Area to Have Dozen Drilling Tests at Once

Hobbs, N. Mex.—More than a dozen tests are in store for the Cooper field, latest oil strike in Lea County, as result of the favorable showing made by the first two completions through the deepening of former dry gas wells by General Crude Oil Company and Magnolia Petroleum Company, joint operators.

Humble Oil & Refining Company has invaded the area by starting operations on S. R. Cooper 1, C NW NE Section 23-24s-36e, located a half-mile northeast of the latest producer. In the event of production this new test will require a minimum of five offsets.

The Cooper area responds favorably to acid treatment of the saturated lime horizon to stimulate production, as borne out by the performance last week of General Crude Oil Company and Magnolia Petroleum Company's Zattu Cushing 1, SWc SE NW Section 23-24s-36e. This well was previously reported as doing 23 barrels oil on the first hour and 17 barrels on the second hour flowing via three-quarter-inch choke on tubing from lime at 3489-3505 feet, with an elevation of 3339 feet. It responded to acid treatment with a flow of 100 barrels of oil per hour through open casing and three-quarter-inch choke on tubing, followed by a flow of 45 barrels per hour via same sized choke on tubing with casing lead-off line closed. It was then pinched to nine barrels per hour through 17/64-inch choke on tubing, with 1150 pounds working pressure on casing and 975 pounds on tubing. The discoverers have rigged up to drill A. H. Meyer 2, C SE SE Section 22-24s-36e, or due south of the first oil producer for the area.

Phillips Petroleum Company is moving in equipment to drill four tests on its C. D. Woolworth 200-acre lease, located directly between the two completed oil wells. Three of these new tests will offset the producers and the other test being started by the discoverers, while the other will be an east offset to Stanolind Oil & Gas Company's A. H. Meyer 1, a north offset to the discovery well. To support this development program the former is erecting a field camp, warehouse and permanent water supply, as it has four additional locations in prospect should the first group prove productive. Phillips Petroleum Company acquired operating control on a total of 960 acres from Pure Oil Company, and contracted to take care of all offsets, carrying Pure Oil Company for a fourth overriding royalty until the development costs are restored, then Pure Oil Company assumes a 50-50 working interest.

The Texas Company is starting operations about two miles south by east of the Cooper area, and about midway between it and the North Jal field. This outpost, as previously announced, is I. B. Ogg 1, C SW NE Section 35-24s-36e.

The Eunice field, Lea County's second best field to date, added a new producer on the east side and several locations last week. Tide Water Oil Company's O. L. Coleman 2, C NW NE Section 17-21s-36e, flowed 750 barrels daily after being treated with 1000 gallons of acid in broken lime pay horizon between 3830-3935 feet, with an elevation of 3622 feet. This well failed to show for a commercial producer until treated with acid. The Texas Company has invaded the Eunice area with its first location, having authorized the drilling of J. M. Rector 1, C NE SE Section 30-21s-36e, while Shell Petroleum Corporation and Devonian Oil Company have made location for State 1, C NW NE Section 20-21s-36e.

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| Shell, State 2-B, nec n½ nw 33-18-38 | ¶34-1752 | 4220 |
| **MONTANA** | | |
| GLACIER COUNTY (Cut Bank Field)— | | |
| Texas, Fee 2, Lot 8, 15-35n-6w | 50 | 2890 |
| Morrison 1, Lot 8, 22-35n-6w | 35 | 2890 |
| Schlag 1, sw sw 26-35n-6w | 35 | 2920 |
| **WYOMING** | | |
| LINCOLN COUNTY— | | |
| H. M. Eller et al, Nick Ziller 1, se sw 32-19n-111w | 25 | 390 |

Failures; †Junked; ¶Million cu. ft. gas.

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Other tests in proven fields of Wyoming are at either nominal or uninteresting depths. It is of interest to note, however, that more than three times as many tests are now drilling in the proved fields of the state than there were at this time last year.

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going on for years to find a more desirable crude in the general area.

Trico Oil & Gas Company, 69 Sutter St., San Francisco, is preparing to drill a wildcat in Section 33-24-22e, Kings County.

The new and revived leasing campaign seems to center in Kern, Tulare, Kings and Fresno Counties. The Dudley Ridge, Avenal and Corcoran districts are being favored.

In Fresno County, Western Gulf Oil Company has been drilling a wildcat at Cantua Creek in Section 15-17-15, and has reached a depth of 8868 feet. It has penetrated the Eocene formation. A string of 6⅝-inch casing has been cemented at 8510 feet. This action has caused considerable excitement and leasing has been active. Little information on the test is given out, and the test soon to be made is being watched closely.

Some increased wildcatting is expected in Southern California but not to the extent now starting and under way in the north part of the state. Most of the likely locations in the Los Angeles Basin have been tested in past years, without any real success. New drilling in Southern California will largely be in the nature of deeper tests in proven fields, seeking deeper producing sands. Long Beach and Santa Fe Springs are not looked upon with much favor in this respect, but other fields of lesser importance will be the scene of deeper tests in months to come.

## Mountain View Activity Continues to Increase

Los Angeles.—Barnsdall Oil Company has entered the Mountain View oil field and has announced three locations. Morris 1 is to be drilled in Section 32-30-29, Noble 1 is to be drilled in Section 30-30-29, and Young 1 is in Section 31-30-29. Drilling is to start at once.

Shell Oil Company is grading for Cowan 1 in Section 15-30-28, near Kern-co 1, in same section, which is flowing 280 barrels of 21.5 gravity oil from 5787 feet. General Petroleum Corporation is building rig for Brantly 1 in Section 14-30-28.

At last report, 14 wells were actively drilling in this field, near Bakersfield, in Kern County, and there are five rigs up. Four locations have been announced.

During the past week, Sovereign Oil Company spudded San Joaquin 1 in Section 30-30-29, and Mohawk Petroleum Company started drilling Hood 4 in Section 30-30-29. Shell Oil Company is grading for Cowan 1 in Section 30-30-29.

General Petroleum Corporation is building rig for Brantley 1 in Section 14-30-28, and Hoyt Otis is rigging rotary for Bloemer 1 in Section 1-30-29.

# World's Record Depth Well Having Trouble Testing

Los Angeles.—The deepest well in the world, which is 11,377 feet deep, was swabbed down to 9600 feet June 17 and 18 and showed considerable pressure, but bridged and will have to be cleaned out again before the production test can be continued.

General Petroleum Corporation's Berry 1 in the Belridge field, Kern County, California, the previous week was washed down to 9600 feet. The 4¾-inch, which had been landed on top of the liner, was pulled prior to the washing job, and was then rerun, following the drilling out of a bridge. Three-inch tubing was run to 9600 feet.

During the recent swabbing, some oil and gas showed, but the heavy mud in bottom of the hole prevented a better showing. The show of pressure before the hole again bridged was most encouraging.

The temperature at the bottom of the world record hole is estimated to be better than 300 degrees and it is feared the mud has been baked so badly that the perforations may be almost completely closed. If this proves true, then the drillers have a hard job ahead of them.

Those who have seen the oil sand cores from bottom are rather optimistic. Although officials of the company are guarded in expressing their opinions, it is known they will be greatly disappointed if a producing well is not finished.

## Mt. Poso Field Has Become Very Active

Los Angeles.—Mt. Poso in Kern County is getting considerable play with two completions the past week and a number of new locations.

General Petroleum Corporation placed a well on the pump that is good for 250 barrels of 16 gravity oil at 1901 feet, producing through 42 feet of perforated pipe. Modoc Petroleum Company's Johnson 2 was good for 125 barrels of 15.2 gravity oil, also on the pump, with 20 percent cut. Depth was 1602 feet and 20 feet of perforated was used.

Shell Oil Company announced locations for Security 8 in Section 16-17-28, and is grading location for Vedder 11 in Section 9-27-28. Bern Oil Company is building rig for Glide 4 in Section 15-27-28, while General Petroleum Corporation has rig up for Glide 2 in Section 21-27-28.

Ohio Oil Company is entering the field and has located Van Houten 1 in Section 20-27-27. Union Oil Company will start soon Nos. 12 and 13 on its S. & M. lease.

Himovitz Lease Company is building rig for No. 4 in Section 21-27-28, and Pongratz Petroleum Company is rigging rotary for Tavis 3 in Section 10-27-28.

The Texas Company is bailing its Vedder 6 in Section 4-27-28 at 1652 feet. Two and One Oil Company's No. 5 stopped the drill in oil sand at 1482 feet and has cemented 8⅝-inch at 1450 feet. Fred E. Keeler is reaming Salisbury 1 in Section 27-26-28, with bottom at 1310 feet. Framac Oil Company's Bohn 1, Section 27-26-28, is drilling in gray sand at 1260 feet, after topping the Vedder formation at 1175 feet.

There is a demand for the oil produced in this field, which is around 16 gravity, and according to field rumors other new wells are to be drilled. The depth is shallow and the wells are economically drilled.

## Kettleman Well Best of Nine in California

Los Angeles.—California fields chalked up nine new oil wells the past week, with a total of 6485 barrels of flush production. One completion at Kettleman Hills started out with an initial of 4220 barrels of 36.3 gravity oil in addition to 7,215,000 cubic feet of gas. Bottom is at 8560 feet with 9⅝-inch cemented at 7745 feet.

At Long Beach, Dabney Johnson Oil Corporation recompleted two old wells for a combined production of close to 600 barrels of about 27 gravity oil. No. 4 is flowing and 89 is on the pump.

The list of new completions follows:

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| KETTLEMAN HILLS— | | |
| Kettleman North Dome Assn., 67-20J | 4220 | 8560 |
| MT. POSO— | | |
| General Pet. Corp., Glide 18 | 250 | 1901 |
| Modoc Pet. Co., Johnson 2 | 125 | 1602 |
| DOMINGUEZ— | | |
| Union Oil Co., Hellman 28 | 170 | 5883 |
| LONG BEACH— | | |
| Concord Oil Co., No. 1 | 125 | 4700 |
| Diecus & Senter, No. 1 | 360 | 4895 |
| West Port Oil Co., No. 1 | 610 | 5140 |
| SANTA FE SPRINGS— | | |
| General Pet. Corp., No. 46-A | 175 | 5028 |
| WEST COYOTE— | | |
| Standard Oil Co., Emery 56 | 450 | 5543 |

Failures; †Junked; ¶Million cu. ft. gas.

Mt. Pleasant, Mich.—Fire caused $4000 damages to McClanahan Oil Company's Morrison No. 4 pumping well in the East Greendale field June 17, crumpling the steel derrick and damaging the pumping equipment. It was believed to have started from an overheated pitman.

## Scattered Michigan Wildcats Hold Interest

Mt. Pleasant, Mich. — A half dozen wildcat tests in widely scattered districts of the state claimed the chief interest in Michigan this week along with four new outpost locations.

J. L. Strachen's Moss 1, Ionia County, North Plain township, Section 19, bailed about five gallons of oil from the Dundee and the test showed some gas before reaching water at approximately 3000 feet. Test was reported 40 feet in the Dundee and may be plugged back and treated to the oil show.

McClanahan Oil Company's Frackelton 1, Clare County, Lincoln township, Section 18, is drilling below 1300 feet and expected to set casing at 1400 feet for a test of the Michigan Stray sand for gas.

In the heavily played Mecosta-Montcalm area, Daily Crude Oil Company's Blair 1, Ferris township, Section 11, eleven miles southeast of two Traverse horizon oil producers, (the discovery wells) in Section 11, Home township, is drilling below 2820 feet and expected to have the Traverse casing point this week. Fourteen tests are either drilling or moving in on the Mecosta-Montcalm structure play.

Two outpost tests in Midland County were scheduled to test Dundee lime before the close of the week. Melvin & Brehm's Whitaker 1, Geneva township, Section 19, is drilling below 3600 feet in the Dundee while Jasmid Oil Company's Pietscher 1, Jasper township, Section 28, is drilling in Bell Shale above the Dundee at 3400 feet.

Two new wildcat locations were made in Northeastern Michigan this week with Fred W. Craft moving in on Gerwold 1, Lapeer County, Oregon township, NE NW NE Section 9; and Alvin H. Webber moving in on Wasbinski 1, Bay County, Kawkawlin township, SE SW NW Section 10.

Sun Oil Company made location on Vallender 1, Midland County, Lincoln township, SW NE Section 11, also a wildcat area.

## Association Protests Michigan Tax Values

Mt. Pleasant, Mich.—Henry G. Hunt, executive secretary of the Oil and Gas Association of Michigan, will appear before the state tax commission in Lansing next week to protest increases up to 300 percent in the taxable valuations of oil equipment in Central Michigan fields.

For the past six weeks representatives of the tax commission have been working in the field re-assessing oil properties, that is: derricks, pumping equipment, tanks, engines, pipe, etc. According to the association, if the figures are accepted by the state as now set up it will increase the taxable valuations from 50 to 300 percent.

In some cases township boards of review protested the increases by state tax commission representatives but indicated that they would in the end be actuated by the state figures.

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Mt. Pleasant, Mich.—The field staff of the Oil and Gas Division, State Conservation Department, here, will be increased from three to six men as the result of increased work. The present staff includes William A. Daoust, Gerald Eddy and Red Newman. The new members, who have been with the division but not working out of this office, will be Lyle Price, Jack Rulison and Gaylord Walker.

## Michigan Completions Add Nine Oil Wells

Mt. Pleasant, Mich. — Fourteen completions in Michigan for the week included nine oil wells, three gas wells, one failure and an abandoned location.

C. L. Hess' Fisk Brothers 1, Ogemaw County, West Branch township, Section 27, which this week was taken over by Clyde Cantrell for future operation, was completed as a 40-barrel pumper in the Dundee horizon at 2664 feet. Although drilled in several months ago it had not been tested until this week when taken over by the new operator. It may be acid treated.

Reed Oil Company has abandoned Brennen 1, Oceana County, Otto township, Section 13, at 2000 feet. It was a Traverse horizon oil test in wildcat territory.

Potential taken on Pure Oil Company's Hoyt B4, Midland County, Porter township, SE SW NE Section 21, this week showed open flow production at 8600 barrels daily. When drilled in three weeks ago it blew out the tools and damaged the control head, flowing wild for six hours. It had not been potentialed until this week.

Acid treatment on Fred Stork's Breu 2, Midland County, Porter township, Section 20, originally completed for 90 barrels, was increased to 4670 barrels with acid treatment; Empire Oil & Refining Company's Finc 2, Porter township, Section 21, increased from 75 to 950 barrels with acid; and Teater and Kates' Neitzke 1, Porter township, Section 28, increased from 10 barrels to 115 barrels with acid.

Youman and Burke's LaFever 1, Isabella County, Sherman township, Section 32, was completed for 3,000,000 cubic feet of gas in the Michigan Stray sand, apparently definitely establishing a mile northwest extension of the Broomfield gas pool. Six weeks ago same operators completed Chaffee 1, in Section 32, Sherman township, for 4½ million feet.

Completions follow:

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| MIDLAND COUNTY— | | |
| Pure Oil Co., Bond-Root 2, Jasper twp., c nw nw Sec. 2 | 1050 | 3435 |
| Neitzke 11, Porter twp., ne ne se Sec. 21 | 450 | 3429 |
| Neitzke 12, Porter twp., sw nw se Sec. 21 | 600 | 3415 |
| Bond A-3, Porter twp., se se sw Sec. 7 | 50 | 3440 |
| Atha Oil Co., Taulker B 1, Lee twp., sw nw se Sec 7 | 20 | 3547 |
| Strange Oil & Gas Co., Walley 6, Porter twp., ne sw se Sec. 16 | 650 | 3415 |
| C. W. Teater, Neitzke 1, Porter twp., ne nw ne Sec 28 | 12 | 3432 |
| ISABELLA COUNTY— | | |
| Mammoth Pet. Co., McDonald 1, Vernon twp., sw nw sw Sec 24 | * | .... |
| Ohio P&R Co., Epple 5, Denver twp., se nw sw Sec. 19 | 60 | 3650 |
| R. L. Hill, Keeler-Mitchel 1, Broomfield twp., nw nw Sec. 9 | ¶¾ | 1447 |
| G. M. Obenauer, Diehl 1, Broomfield twp., se ne Sec. 15 | ¶2 | 1345 |
| Youman & Burke, LaFever 1, Sherman twp., sw nw Sec. 32 | ¶3 | 1390 |
| OGEMAW COUNTY— | | |
| C. L. Hess, Fisk Bros. 1, West Branch twp., se sw sw Sec. 27 | 40 | 2664 |
| OCEANA COUNTY— | | |
| Reed Oil Co., Brennen 1, Otto twp., sw sw nw Sec. 13 | * | 2000 |

Failures; †Junked; ¶Million cu. ft. gas.

## Brine Pits Effective in Michigan Pollution Control

Mt. Pleasant, Mich.—Construction of brine impounding pits already has reduced the percentage of pollution in streams leading from oil field areas, it was announced this week by the Oil and Gas Association of Michigan. The following figures were shown: As of June 1, 4670 barrels of brine reached streams from the Vernon pool, now reduced as of June 15 to 438 barrels; 1350 barrels reached streams from the Porter field as of June 1, now reduced to 115 barrels as of June 15.

The state ordered all oil well operators to cease dumping brine in streams after June 1 and to impound it in pits or dispose of it in other ways not damaging to streams. The impounding plan has been the most widely followed.

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Mt. Pleasant, Mich.—George Hanners and associates will attempt to get commercial oil production on the Free Methodist Church lease in Section 17, Porter township, Midland County, by turning the rig end for end and drilling a new test after a failure on the first.

Hanners drilled a test last summer on the church lease, less than one acre, but it failed as a commercial producer and a month ago was abandoned. However, several hundred barrels of oil was pumped off at intervals, water resulting in abandonment. The test offset three commercial wells.

# Drilling Reports On Important Wildcats

## SOUTH TEXAS

BANDERA COUNTY—A. P. Crane & Co.'s Watson 1, dr 1267 ft, black sand. Peerless Oil & Gas Co.'s R. D. Garrison 1, Sec. 506, GC&SF Sur, sp.

BASTROP COUNTY — Marts & Beavan's Davenport 1, Thos. Garretson Survey No. 19, coring 1950 ft. Megahan and Vogel's Watts 1, John W. Bunton Sur. No. 2, dr 2000 ft, top serpentine 1529 ft, top chalk 1584 ft. Ogden and Reed's Riddle 1, Maximillian Survey, tested little oil 2338 ft, sd. Nelson Pruett's J. H. Carroll 1, A. Mays Survey No. 19, dr 1600 ft. Watt L. Saunders' Harris 1, Maximillian Survey No. 22, sd 2338 ft.

BEE COUNTY—Caesar Oil Co.'s Pullin Est. 1, F. Lewis sur, spud and sd; W. E. Ruckman 1, F. Lewis sur, ru and sd. Dash Production Co.'s Ruhmann 2 (5), Lot 14, Wm. Hodge sur, coring 3010 ft. Dash Production Co. & Houston Oil Co.'s P. B. Butler 1, s and w Caesar wells, making lcn. R. A. Davis et al's Baptist Church 1, F. Lewis sur, prep to sp. Dirks Bros.' Rapp 1, ne same operator's producer, West Tuleta field, ru. R. H. Feltner's Albert Theis 1, Castano Revis sur, dk. Heep Oil Corp.'s J. C. Wood 1, P. Crain sur, td 4708 ft, pb snd 4201-5 ft, test sw, dr deeper to contract depth of 6500 ft. Howeth & Swiger's Marie Schramm Estate 1, 2332 ft wl and 460 ft nl 150-ac tract, Hugh O'Brien sur, 4 mi s Skidmore, dk. Phillips Petroleum Co.'s T. P. Morgan 1, H. E. Eyles sur, re-dr 6091 ft. United Production Co.'s G. A. Ray 45, W. J. Porter sur, dr 4420 ft. Worth Oil Co.'s Seale 1, B. Q. Hadley sur, sp and sd.

BEXAR COUNTY—Berry & Hayes' City of San Antonio 1, 8960 ft el and 6322 ft nl, G. N. Nunes Sur. No. 151, coring for Edwards lime 800 ft. A. M. Blume's A. J. Bitter 1, J. M. Baerrerra No. 58, dk; L. Ridder 3, J. M. Baerrera Sur. No. 2, dr 500 ft. James G. Boles' T. R. Dillon 1, Tract 8, Manuel de la Luna sur, dr 450 ft. M. J. Crouch's Gaston & Cool 1 Von Ormy sp. McPhee & Briggs' Randolph Carter 1, M. de Luna Sur. No. 3, rigged up, wait on water; Florence Lamb 1, M. de Luna Sur. No. 3, re-work water well, now sd 425 ft. Medina Oil Co.'s Geo. W. Hendrickson 1, C. A. Yoakum sur, dr 780 ft. Geo. L. O'Neill et al's G. F. Niemann 1, Juan Montez Sur. No. 6, td 1423 ft, bailed little oil, now sd. C. A. Smith's Lamb 1, De la Garza Grant, td 982 ft, bailed little oil. E. Weilbacher's Ernst 1, John Christopher sur, sp.

CALHOUN COUNTY — Continental Oil Co.'s American Nat'l Realty Co. 1, Sec. 6, Blk. C, dr 3625 ft. Heep Oil Corp.'s Welder 1-B, Day Land and Cattle Co sur, dr 4795 ft. J. H. Meeks' R. Aeams 1, V. Garcia sur, ru.

CALDWELL COUNTY—H. M. Anderson's W. B. Perry 1, Gideon Pace sur, sp and sd. S. S. Cargill's W. Damereau 2, D. Cooper sur, 2262 ft, still sd for water. Bob Keene et al's Ewald 1, James Geo sur, temp sd 2228 ft. Kurz Oil Producing Co.'s C. Kurz Ranch 1, Blk. 1, Kurz sub of Klecamp sur, ru. Herbert Morgan et al's Blackwell 1, J. D. Rains sur, dr 2250 ft. M. C. Moore's Lackey 1, Squire Damon sur, sd 815 ft. Wagener, Daniels & Stieren, S. M. Blackwell 1, 4584 ft swl and 1667 ft sel of John Roe sur, sp and set sur csg.

DE WITT COUNTY — Keystone Royalty Co.'s L. T. Burns 1, Nicolas McNutt sur, dr 450 ft.

DUVAL COUNTY—J. H. Bute's W. H. Beall 1, Sec. 572, lcn. S. B. Cloyes & W. P. Luce's Hagist 1, Blk. 11, Sec. 265, td 2451 ft, pb and 2155-61 ft, swabbed about 50 bbls fluid, 30 percent oil, daily, sd Continental Oil Co.'s Clara Driscoll Sevier 1, Sec. 448, K. F. Hasselman's Moody 1, Sec. 60, sp. Lewis & Beer's W. R. Peters 1, Blk. 18, Sec. 27, dr 1000 ft. Magnolia Petroleum Co.'s Duval County Ranch 1, Sec. 58, snd 2315-20 ft, test 37 joints sw, dr 2450 ft. J. R. B. Moore's W. R. Peters 1, Sec. 36, dr 2250 ft. O'Byrne & Jennings' Juan Benavides 1, Blk. 6, Sec. 355, developing water supply before re-dr. Sun Oil Co.'s Moreno 1, Sec. 540, dr 5430 ft. Sun Oil Co.'s L. Weiderkehr 62, Sec. 361, dr 2150 ft.

EDWARDS COUNTY—Lausen & Lausen's Turney 1, CCSD&RGNG Ry. sur, Blk: NW, fsh 165 ft. H. H. Sides' Turney 1, CCSD&RGNG Sur. No. 164, Blk. NW, ream 522 ft to set 8¼ csg.

FAYETTE COUNTY — Richardson et al's (Colorado Company) Anders 1, James Winn sur, dr 2850 ft.

FRIO COUNTY — Amerada Petroleum Corp.'s Halff & Oppenheimer 1, J. H. Gibson sur, top Edwards lime 5990 ft, show stain oil and sulphur odor, coring ahead.

GILLESPIE COUNTY—Ed L. Nixon's Lindig 1, M. J. Guerra Sur. No. 41, dr 292 ft.

GOLIAD COUNTY—Diamond & Half Oil Co.'s Runge Bank 1, B&B Sur. No. 25, (formerly carried O'Byrne & Kendricks), sp.

GONZALES COUNTY — H. H. Weinert's, August Kallies 1, Ira Nash sur, lcn.

GUADALUPE COUNTY—Diamond & Half Oil Co.'s A. J. Ball 1, L. H. Peters sur, dk. Holifield et al's Geo. W. Bailey 1, J. G. King sur, dr 750 ft.

HIDALGO COUNTY—D. D. Oil oC.'s Mrs. L. George 1, Share 13, Por. 41, coring 3153 ft. Rogers et al's Fairbanks 1, sp. Union Sulphur Co.'s America Rio Grande Land & Irrigation Co. 1, Blk. 59, Lot 2297, dr 5978 ft, sndy shale. Otto Woods' John Lawrence 1, Tract 274, Porcion 39, dr 2015 ft.

JACKSON COUNTY — Encino Gas Co.'s Drummond 1, Musquez sur, ready to sp; Simon & Seidel 1, Musquez sur, td 5585 ft, cored too deep in formation, showed sw, pb 5400 ft, wocs, will whipstock and core into sand again; American Realty & Investment Co. 1, Vanderbilt townsite, dr water well.

JIM WELLS COUNTY—Andrews & Long's Cuero Cattle Co. 1, HT&B Sur. No. 7, ru and sd. John F. Camp's B. W. Owens 1, Sec. 11, wait on rig, td 500 ft. Magnolia Petroleum Co.'s A. A. Seeligson 4, 2750 ft wl and 1320 ft nl Sec. 216, re dr below 400 ft surface csg. Putnam & Bode's McCarley 1, Casa Blanca Grant, fsh 3678 ft.

JIM HOGG COUNTY—Atkins & O'Neil's W. W. Jones 1, 1950 ft sl and 1750 ft e of n cor of lease, or 200 ft el and 19 ft nl, Blk. 81, Share 27, Holbein sub, Diego Hinojosa Grant, 5 mi ne Hebbronville, move in. Sun Oil Co.'s Guerra 1-E, Share H 14-A, Cuevitas Grant, dr 2430 ft.

KARNES COUNTY — R. E. Cezeaux's T. Campbell 1, Baker sur, no rept. Geo. Ray's Radford 2, dr 2465 ft.

### ABBREVIATIONS

The following abbreviations, signs, etc., are used in completion and wildcat reports in THE OIL WEEKLY.

* —*dry hole, abandoned well.*
‡ —*salt water (completions).*
† —*junked and abandoned.*
¶ —*million feet of gas.*
abd —*abandoned.*
bbls —*barrels.*
br —*building rig.*
b.s. —*basic sediment.*
csg —*casing.*
co —*cleaning out.*
dd —*drilling deeper.*
dk —*derrick.*
dr —*drilling.*
fsg —*fishing.*
ft —*feet.*
hfw —*hole full of water.*
in —*inches.*
lcn —*location.*
m —*milling.*
mim —*moving in materials.*
mit —*moving in tools.*
mot —*milling on tools.*
n, s, e, w, —*north, south, east, west.*
oih —*oil in hole.*
owdd —*old well drilling deeper.*
owpb —*old well plugging back.*
pb —*plugged back or plugging back.*
r —*reaming.*
rog —*rig on the ground.*
rur —*rigging up rotary tools.*
rust —*rigging up standard tools.*
sd —*shut down.*
sdtr —*sidetracking.*
sg —*show gas.*
si —*shut in*
so —*show oil.*
so & g —*show oil and gas.*
spd —*spudding.*
sr —*straight reaming.*
sw —*salt water.*
td —*total depth.*
ur —*underreaming.*
wih —*water in the hole.*
wo —*workover.*
wocs —*waiting on cement to set.*
wosr —*waiting on standard rig.*

KENDALL COUNTY — Walter Bradley's Willie Werner 1, J. F. Torrey Survey No. 781, dr 450 ft.

KERR COUNTY — Edmiston & Walker's Whitworth 1, Sec. 1439, HE&WT Sur, dr 385 ft. Herbert Oil Co.'s J. D. Witt 1, Sec. 1923, sd 1896 ft.

LA SALLE COUNTY—Dupree Fountain's R. J. Kroschewsku 1, A. G. Starty sur, lcn.

LEE COUNTY—Pederson et al's Turner 1, David Hudson sur, dr 3700 ft.

LIVE OAK COUNTY—Holmes & Goodwin's Fee 1, B. Haugherty sur, td 902 ft, trying to dr out bridge. Lion Oil & Ref. Co.'s McNeill 1, move in. C. G. Potter et al's Jacob 1, GH&H Sur. No. 1, sp and sd for water. Unit Oil Co.'s Terrell 1, C. Scanlon sur, sp. C. L. Witherspoon's W. J. Marbach 1, E. Jurdin sur, sp.

McMULLEN COUNTY—C. A. Hall's H. L. Lark 2, E. W. B. Scrugham sur, td 1053 ft, trying to cut off water. C. C. Shumway's Shiner 6, Sec. 62, Shumway Sub, dr 1500 ft.

MAVERICK COUNTY — Strohman & Wright's Debonar 2, dr 635 ft.

MEDINA COUNTY—Scoggins & Sanders' L. W. Burrell 1, M. E. Gage Sur. No. 395, fsh 1143 ft.

NUECES COUNTY—Benedum & Trees (A. F. Holliday) J. O. Bickham 1, G. Faris sur, dr 5720 ft. Ed. Buckley's Noacks 1, ru. Diadem Oil Co.'s J. C. Mayo 1, Sec. 23, dr 5802 ft. Nutex Oil Co.'s (John F. Camp) King 1, Sec. 24, Richard King Farm Lots, td 6021 ft, run tubing. Stanolind Oil & Gas Co.'s Stratton 2, 1980 ft nl and 660 ft wl ne¼ Sec. 13, Abajo Grant, 1 mi ne No. 1, location. Texas Seaboard Oil Company's Laurele Farms 1, Sec. 40, J. O. Chapman Ranch, sp.

REAL COUNTY—H. J. Heartwell (McGinley) L. J. Haby 2, AB&M Sur. No. 175, dr 2100 ft.

REFUGIO COUNTY—Atlantic Oil Producing Co. & Stanolind Oil and Gas Co.'s J. J. O'Brien 6-A, Ximinez sur, snd 5919-29 ft, set csg, wocs. C. B. Bunte, Inc.'s, Rooke 2, Antonio de la Vina sur, td 6000 ft, to run electric formation tester; Rooke 3, Antonio de la Vina sur, dr 5975 ft. Holland Oil Co.'s Peck 1, Sec. 24, Esteban Lopez Sur. No. 244, td 5351 ft, prep to core deeper. Houston Oil Co.'s Rooke 13, Thos. Mullin sur. dr 3275 ft; W. J. J. Heard 14, Refugio Town tracts, dr 1500 ft. Humble Oil and Refining Co.'s Fannie Heard 4, Ximines sur, td 5775 ft, fsh for three in. drill stem. G. Jeffrey's J. F. Power 1, Garza & Vidauri sur, dr 3900 ft. Nesral Oil Co. & Baymore's V. E. Heard 1 (2), Ximines sur, dr 2500 ft. Quintana Petroleum Corp.'s O'Conner 1, Swisher sur No. 3, snd 5574-80 ft, dst 10 min, 10 fourbles oil, 41.4 corrected gravity, 165 lbs rock pressure, ¼ inch chokes top to bottom, set csg, wocs. Standard Oil Co. of Kansas' T. O'Conner 1, N. S. Crunk sur, dr 5875 ft. United Production Co.'s Fox 14, Hews & Brown sur, dr 5725 ft; W. J. Fox 15, Hews and Brown sur, td 5940 ft, ds stuck 47 ft, plug back to 4400 ft, wocs.

SAN PATRICIO COUNTY — Beasley & Maxwell's Sadley 1, Blk. 1, Sec. 32, T. Perez sur, dr 3100 ft. Circle W. Oil Co.'s Welder 1, Villareal sur, Tract 5, 6017 ft, pb to 5100 ft, wocs. to whipstock, sidetracked and go into sand again. Continental Oil Co. & Atkins and O'Neil's Welder 1-A, Blk. 2, Villareal Grant, re-dr below 100 ft sur csg; Welder 2, 932 ft se No. 1, Juan Hart sur, sp in. Diamond Half Oil Co.'s Ragsdale 1, 330 ft wl and 250 ft nl Geo. A. Paul sub No. 58, ready to sp. Heep Oil Corp.'s Bob Welder 1, wait on permit from R. R. Commission. Petrole Corp.'s Welder 1, move in. Plymouth Oil Co.'s Welder 2-A, dr 4320 ft; Welder 1-B, Musquez sur, set 1197 ft sur csg, woc.

STARR COUNTY—J. Garfield Buell's Guerra 1, Sec. 10, set 150 ft sur csg, wocs. Circle W. Oil Co.'s (formerly Merle Gunby) Block Bros. 1, Blk. 13, sp. Jim Cloud, Inc.'s, J. Rodriguez 1, Share 36, Por. 88, sd 360 ft. McDonald Campbell's C. C. Bowman 1, Blk. 13, Sur, 888, to abnd at 3500 ft; E. A. Peffley 1, Sec. 933, sd 2507 ft. Smith-Texas Oil Co.'s

Starr County Cattle Co. 1, Blk. 24, Por. 89, prep to sp. Sun Oil Co.'s M. Guerra 6-C, Sacatosa Gr, dr 2375 ft. Weekly Oil Corp.'s M. M. Garcia 1, Share 40, sd 850 ft.

TRAVIS COUNTY—Humble Oil and Refining Co.'s Catherine Wells et al 1, James Kemp sur, coring 770 ft, dry serpentine.

UVALDE COUNTY—Frank A. Brown's J. A. Milliken 1, Antonio Cruz Sur. No. 383, sd 870 ft. Evans & Thompson's Farris 1, J. M. Hammond sur, sd 1050 ft for repairs. I. L. Evans' Dismukes 1, J. Kemp Sur. No. 652, sd 130 ft. Humble Oil and Refining Co.'s R. L. Anderson 1, Juan Juse Guerra Sur. No. 75, fsh 2098 ft. T. T. Word's K. S. Truelove 1-A, Elam sur, reaming 471 ft.

VICTORIA COUNTY—C&RG Drilling Co.'s C. H. Roos 1, M. A. Castanon sur, dr 5900 ft. Gulf Production Co.'s Keeran 5, from intersection of Missouri Pacific RR with swl of M. de Leon Grant, 6257 ft ne along RR, thence nw at rt angles 2539 ft, and in M. de Leon Grant, lcn. Humble Oil and Refining Co.'s Mitchell 1, P. Benavides sur, dr 5440 ft, shale; A. M. McFaddin 1, C. O. Edwards sur, ru wait on water and gas connections to sp; Agnes Murphy 1, Ximinez sur, coring 1980 ft. Petrol Corp.'s Machalec 1, swabbing 2875 ft, show little oil, but will not flow. Texas Co.'s McFaddin 1, C. M. B. Hoyt sur, ds stuck 2025 ft.

WILLACY COUNTY—W. W. Silk's Santa Rosa 1, Lot 16, Blk. 130, Santa Rosa sub, Share 44, prep to sp.

WEBB COUNTY — French Oil Corp.'s R. Benavides 8-A, Sec. 659, snd 2337 ft, set csg. wocs. John D. Manley's E. Benavides 1, M. Arispe Grant, coring 1700 ft. United Production Co.'s Bruni Est. 2, Blk. 43, Sur, 8, Adams sub, Mariano Arispe Grant, dr 1000 ft.

WILLIAMSON COUNTY — McNeil Petroleum Corp.'s Robert Streit 1, 350 ft nel and sel 100 acre tract, J. West sur, dr 850 ft. G. L. Rowsey, Trustee's J. Reiger 2-A, P. Cartwright sur, dr 1180 ft, serp 986-1010 ft; J. Reiger 4-A, H. White sur, dr 850 ft.

WILSON COUNTY—Ben Burger, Trustee's A. F. Burney 1, Arocha Grant, move on.

ZAPATA COUNTY—O. W. Killam's Bruni 1, Blk. 14, Sec. 13, dr 1300 ft. R. B. Morrison's Ramirez 1, Blk. 4, Share 20, Por. 19, dr 3000 ft. Robert Newton's Killam 1, Blk. 6, Sec. 182, dr 1350 ft.

## EAST TEXAS

ANDERSON COUNTY—H. L. Hunt Prod. Co. et al's A. L. Temple-C. A. Miller 1, S. Sanchez sur 2-10, Long Lake area, lcn. Sun Oil Co.'s Robt. N. Erskine 1 (5203-ac), Sam C. Box sur, Navarro Crossing, elev 197 ft, sp and sd.

CASS COUNTY—J. D. Kneen et al's E. M. Ball 1 (160-ac), Cass Co. School Lands sur, sp and sd. John R. Hadley et al (was Pigg-Davis-Joiner's) Ray Bryan 1 (80-ac), Al Latimer sur, elev 343 ft, Pecan chalk 2316-2638 ft, co 2860 ft. Remley-Nelley & R. Kamon Group No. 1's Mrs. I. O. Savage 1 (121-ac), Mary Patterson sur, elev 351 ft, Pecan chalk 2030-2488 ft, sd for drill stem test 3918 ft. United Production Corp.'s T. J. Walton 1, J. Coleman sur, Pecan chalk 2079-2421 ft, dr by junk, td in lime 3575 ft. H. F. Wilcox et al's S. A. Orr 1 (316-ac), G. W. Morris sur, elev 381 ft, bailed sd, td 3887 ft.

CHEROKEE COUNTY—K. Hughes & A. R. Lewis et al's Jess Bradford 1 (50-ac), John Laprelle sur, co 3100 ft. W. L. Stearns et al's W. L. Stearns 1 (89-ac), S. A. Maverick sur, Boggy Creek field, lcn. C. & G. Oil Co.'s New Birmingham Dev. Co. 1, J. F. Timmons sur, elev 493 ft, dr 2450 ft. T. J. Wood & Young's New Birmingham Dev. Co.-Shell 1 (160-ac), Levi Jordan sur, elev 432 ft, Pecan chalk 3985-4306 ft, killed heavy flow oil, gas and water in Woodbine at 5125 ft and pb to 4893 ft to redrill sand. South Gulf Oil Corp.'s Joe Bailey 1 (164-ac), L. Rhodes sur, rig.

FREESTONE COUNTY—Clyde W. Creighton & Co.'s W. A. Holley 1 (80-ac), AB&M sur, elev 399 ft, coring Woodbine sand 5370 ft. Walter L. Goldston et al's E. M. & C. H. Watson 1, R. D. Price sur, lcn. J. E. Milburn & J. B. Patty's S. A. McAshan 1 (40-ac), J. P. Fulton sur, lcn Trinity Farm Securities Co. & A. A. Lander's Trinity Farm 1, R. M. Williamson sur, sw of Cayuga, lcn. Trinity State Oil Co.'s Trinity River 1, sw of Cayuga field, lcn

FRANKLIN COUNTY—Magnolia Petroleum Co.'s J. M. Dupree 1 (640-ac), W. D. Taliaferro sur, elev 317 ft, top Woodbine sand 3270 ft; top red beds 3306 ft, cor sandy-ash, brackish taste, 3440 ft.

HENDERSON COUNTY—Great State Oil Corp. (Dick Andrade III's), R. Sid Ansley 1, dk. Gulf Prod. Co.'s Geo. M. Collins 1, (100-ac), Wm. J. L. Scott sur, elev 667 ft, Pecan chalk 3198-3390 ft, top Austin chalk 4332 ft, cor 4700 ft.

HOPKINS COUNTY—D. A. Hale et al's L. M. Hall 1 (70-ac), A. Caro sur A-143, dk.

HOUSTON COUNTY—Boone et al's Trinity State Bank 1 (142-ac), Chas. McEllis sur, dk.

HUNT COUNTY—G. S. & S. Co.'s Oscar Popper 1, Jas. Moore Sur. No. 544, rig. L. G. Priest (was J. H. Waggoner O&G Co.'s) J. R. Love 1 (95-ac), J. Grilisky sur, elev 558 ft, core lower Woodbine sand 3460 ft. M. O. Shawver et al's J. H. Jones 1 (99-ac), Lydia Ferguson sur, Austin chalk 1180-2035 ft, elev 355 ft, tested sw in Woodbine 3104 ft, sd to whipstock and re-drill, else skid dk.

LAMAR COUNTY—Cole-Waggoner et al's W. B. Martin 1 (132-ac), J. Deck sur, sd 2500 ft.

MORRIS COUNTY—Ginsberg Bros. et al's E. Hall 1 (177-ac), Levi Jordan sur, top Pecan chalk 2360 ft, dr 2630 ft. C. L. Simpson et al's P. M. Staggers 1, J. D. Nelson sur, sd shale 2330 ft.

NAVARRO COUNTY—Bennett Bros. et al's T. E. Stewart 1 (83-ac), W. R. Bowen sur, dr 215 ft. L. N. McCulloch et al's C. D. & J. L. Berry 1 (35-ac), W. W. Moss sur, dr 535 ft. R. L. Wheelock-J. L. Collins-Humble-Magnolia's I. N. Cerf 1 (50-ac), Jas. Smith sur. Trinity sand test on w edge Corsicana-Powell field, correcting crooked hole, 2400 ft.

RAINS COUNTY—J. W. Halsell and J. K. Wadley et al's T. F. Jones 1 (22-ac), BBB&C Ry sur, elev 425 ft, top Nacatoch sand 1610 ft, co 2100 ft.

RUSK COUNTY—G. A. Hathaway et al's Gray 1, Jas. McLain sur, elev 315 ft, top Georgetown lime 3140 ft, sd 4460 ft. Geo. F. Hudson et al's J. H. Phillips 1-A, N. Villareal sur, top Pecan chalk 2412 ft, so and g on dst in Woodbine 3603-3622 ft, sd to woc.

SMITH COUNTY — Cochran & Williams' Mrs. J. M. Dean 1 (100-ac), B. Moore sur, lcn. B. F. Phillips et al's Gibbons Mfg. Co. 1, J. M. Garcia sur, elev 304 ft, sd 3830 ft. Preston Rose-D. E. Stimson et al's E. Wiggins 1, F. H. K. Day sur, elev 479 ft, dr 3700 ft.

UPSHUR COUNTY—G. H. O. Oil Co.'s J. M. Floyd 1 (177-ac), Robt. Raiford sur, co 1085 ft. Lanier & Moore's M. Vaughn 2, P. B. Standifer sur, sdo 1042 ft. B. G. Barnett & Randerson's W. S. Jones 1 (15-ac), Jas. Dunn sur, elev 282 ft, Austin chalk 3660-3707 ft, tested dry 3731 ft. Joe Papadakis et al's L. V. Towery 1 (4-ac), Wilson L. Parmer sur, Pecan chalk 2703-3065 ft; Austin chalk 3699-3749 ft, testing Woodbine sand 3780 ft. R. S. Randerson et al's J. H. Minor 1, R. D. Cannon sur, 3 miles ne Coffeeville, Pecan chalk 2300-2860 ft; Austin chalk 3510 ft, sd in lime 3891 ft.

VAN ZANDT COUNTY—B. F. Blackman et al's C. E. Dorrill 1 (35-ac), C. E. Rivers sur, dr 1325 ft. C. A. Gilliam, Virgil Whitworth & Arthur Allen's A. T. Bass 1 (16-ac), Wm. Hart sur, top Woodbine section 4210 ft, sd 4236 ft. Peden-Olson Oil Co.'s W. S. Brannon 3 (45-ac), lcn; Palmer 1, cem cas 1214 ft, sd 1270 ft td with so. Skinner et al's D. F. Cade 1 (28-ac), sd for cas with so, td 1265 ft. W. O. Smith et al's J. H. Campbell 1 (100-ac), N. S. Bratcher sur, elev 502 ft, top Pecan chalk 2556-2690 ft, dr 2800 ft. Van Zandt Synd.'s Dr. C. S. Coker 1 (60-ac), sd 1208 ft. J. D. Wrather et al's G. W. Carter 2, (10-ac), dk.

WOOD COUNTY—D. T. Cauble & Mrs. J. C. Thompson's N. G. Bobbett 1-A (50-ac), Daniel Fuller sur, Mineola area, elev 497 ft, Pecan chalk 2950 -3234 ft, sd 5502 ft. Alex M. Snyder et al's J. T. Holmes 1 (122-ac), A. N. McKnight sur A-399, dr 3420 ft.

## ARKANSAS

CALHOUN COUNTY—Mid-American Oil Corp.'s J. H. Plunkett 1, nw sw 15-14-15, dr 2300 ft.

COLUMBIA COUNTY—O. F. Whittaker's C. C. Hall 1, se ne 10-15-20, 6-in csg 2104 ft.

CONWAY COUNTY—Southern Union Gas Co.'s Feldman 1, 6-5n-17w, sd 3100 ft.

FULTON COUNTY—Salem Dev. Co.'s I. C. Stephens 1, sw sw se 31-20-7w, spd.

HEMPSTEAD COUNTY—Arkansas Drilling Co.'s Jones 1, ne se rog.

LAFAYETTE COUNTY—W. H. Harvey's A. M. Allen 1, ne sw 18-19-24, dk. Earl F. Fox's Coleman Bros. 1, nw ne 36-16-25, rur. Douglas Lawn's Camp 1, sw se 14-15-23, dr 1940 ft. C. V. Lenz' L. A. Foster 1, ne se 9-15-25, sd 2820 ft.

LEE COUNTY—Ark. La. P. L. Co.'s E. McDonald 1, 28-1n-4e, wocs 10-in csg 280 ft.

MILLER COUNTY—Arkanva Oil Corp.'s Beck B-1, se se 33-15-26, 2 ft sand, arr test, td 2923 ft. Fitzwater et al's H. E. Beck 1, nw sw 34-15-26, lcn. W. F. Lacey's Gibson 1, sw nw 30-19-27, dr 3295 ft. Magnolia Pet. Co.'s Olivet 3, ne ne 4-16-26, dr 2800 ft. Lee Timberlake's E. L. Beck 1, nw se 33-15-26, dr 2790 ft. Jno. Wrather's E. V. Olivet 1, nw ne 4-16-26, arr test, td 2937 ft. Beverly Oil Co.'s Commercial Nat. Bank 1, ne se 30-17-28, dk. Oilwell Oil Corp.'s Burt Dodd 1, sw ne 10-19-28, dk mit. E. L. Young et al's R. M. Patterson 1, se ne 5-19-28, arr skid over for new hole, td 3655 ft.

OUACHITA COUNTY—J. D. Reynolds' C. C. Guttry 1, ne sw 21-15-19, dr 1850 ft.

UNION COUNTY — Alexander-Head Oil Co.'s Union Sawmill Cop 1, sw sw 28-17-13, dk.

## MISSISSIPPI

FRANKLIN COUNTY — E. R. Ratcliff's Homochito Lbr. Co. 1, se se 20-5n-2e, sd 3491 ft.

GREENE COUNTY—United Gas' Davis 1, nw nw 30-1n-5w, dr 6854 ft.

ISSAQUENA COUNTY — Pelican Oil & Gasoline Co.'s Steel Bayou Corp. 1, sw nw 14-12n-8w, dd 2000 ft.

JONES COUNTY—Snow-Black Pet. Co.'s Watson 2, ne sw 24-7n-13w, wocs 12-in csg 326 ft.

PEARL RIVER COUNTY—Gulf Ref. Co.'s May L. Williams 1, se ne 35-5s-17w, wocs 7-in csg 3696 ft, td 3720 ft (corrected depth).

SIMPSON COUNTY—Berry Corp.'s Berry 2, sw sw 33-2n-4e, wocs 6⅝ csg at 2048 ft, gmbo.

WALTHALL COUNTY—Mutual O&G Co.'s Boyd 1, sw sw 19-2n-10e, rog.

WASHINGTON COUNTY — Perkins & Dees' Lee 1, nw sw 33-15n-8w, wocs 10-in csg 300 ft.

## ALABAMA

CLARKE COUNTY — Magnolia Pet. Co.'s Scotch Lbr. Co. 1, sw ne 17-10n-3e, setting surf csg.

HOUSTON COUNTY — Rice O&G Co.'s Oakley Est. 1, nw sw 9-3n-29e, dd 1159 ft.

LAMAR COUNTY — DeSoto O&G Co.'s Gardner 1, nw nw 22-15-16, dr 4150 ft.

## TEXAS GULF COAST

BRAZORIA COUNTY—Holt et al's Griffith 1, J. B. Baily sur, mim. W. H. McCarthy et al's Natl Life Ins Co. 1, H. Austin No. 4,-A-21 sur, dk.

BRAZOS COUNTY—H. L. Bleam's Harrison 1, Allacorre sur, lcn abd.

BURLESON COUNTY—McDavid & Pressley Tr's Atascosa State Bank 1, J. Reed sur, lcn. Southern Seaboard's Coulter 1, A. Kennon sur, dk.

CHAMBERS COUNTY—John H. Carreker's Weaver 1, A. Weaver sur, dr gumbo 2460 ft.

FORT BEND COUNTY—H. M. Naylor's Gehr 4, Kenney sur, sd 5466 ft; same operator's Gehr 5, S. Kenney sur, lcn.

GALVESTON COUNTY—C. R. & G. Drilling Co.'s Spoor 1, W. K. Wilson sur, dr gas sand 6190 ft. Humble O. & R. Co.'s Maco Stewart 1, J. Sellers sur, dr shale 3558 ft.

HARDIN COUNTY—Pharr et al's Bernard 1, H. & T. B. No. 69 sur, sd, waiting on Alpha Pet. Co.'s Weiss 1. Danciger Oil Co.'s Mary Hooks 2, W. Donahue sur, standing 4555 ft. Alpha Pet. Co.'s Steinberger 1, H. Williams sur, dr shale 6100 ft. Wilcox Oil & Gas Co.'s Sternberg 1, G. Dorsey No. 1 sur, dr gumbo 2960 ft. Humble O. & R. Co.'s Kirby 1, S. Jackson sur, dr 400 ft.

HARRIS COUNTY—Foster et al's Johnson 1, C. C. & S. F. sur, sd. J. E. Seiber Tr's Tyrell & Carth 1, Highland Subd., dr shale 6725 ft. Loring Oil & Gas Co.'s Westmoreland 1, J. M. Swisher sur, set surface csg 1146 ft. General Crude Oil Co.'s Rorick 1, J. C. Ogburn sur, mir.

JEFFERSON COUNTY—Sun Oil Co.'s Long 1, John Blair sur, r 6300 ft.

LIBERTY COUNTY—Gulf Prod. Co.'s Kirby C-2, J. Pleasant sur, whipstocking 5600 ft; same company's Kirby C-4, in the same sur, dr 4550 ft. Liberty Independent Oil Co.'s J. M. Neal 1, S. Strong sur, dr shale 1520 ft. R. M. Bruner's Bell 1, 150 ft from n and w lines of 10-ac lease on H.&T.B. sur No. 4, lcn. M. Lewis' Schindler 1, midway between n Dayton & Sheeks prospect, 825 ft from w and 1000 ft from n line of 300-acre lease in R. Pruitt sur, lcn.

MADISON COUNTY — Hall Edwards' Flucher 1, F. Flucher sur, abd 6098 ft.

MATAGORDA COUNTY—Dr. Griffith's Fee 1, W. E. Bell sur, mir.

MONTGOMERY COUNTY—Baker et al's Benker 1, L. H. M. Washington sur, coring sand 4866 ft. Doering & Frazier's L. Hicks 1, T. Taylor sur, dr 998 ft. Steen Drilling Co.'s Texas Long Leaf Lumber Co. 1, Walker School Land sur, making 30 bbls of 65.2 distillate per day.

ORANGE COUNTY—Texas-Louisiana Oil Co.'s Lutcher Moore Lbr. Co. 1, Ben Johnson sur, sd 5050 ft.

POLK COUNTY — Howard Dailey et al's Knox 1, F. Chairs sur, coring 4899 ft.

SAN JACINTO COUNTY — Phillips Pet. Co.'s Foster 1, 5 mi s Cold Springs, 330 ft out of nec of G. Taylor sur, lcn. Turnbull & Irwin's Thompson 1, 4½ mi w of Ace area, 456 ft from w line & 3610.35 ft from s line in J. D. Martinez No. 4 sur, mir.

TYLER COUNTY—Boone Wallace Lane's J. A. Crews 1, S. L. Graham sur, dr sand 260 ft.

WALLER COUNTY—Amerada, Stanolind's Mary Monor 1, sec 93, H. & T. B. R.R. sur, fsg 6713 ft. Capps & Sloane's Vaughn 1, J. McFarland sur, sd 2900 ft.

WALKER COUNTY—Strake Pet. Corp.'s Thompson 1, J. Grouch sur, dr 4200 ft, reported Hockleyensis around 2900 ft.

## LOUISIANA GULF COAST

ACADIA PARISH—Superior Oil Co.'s Arceneaux 1, Sec. 28-8s-3e, dr shale 2972 ft; Leo Kahn 1, Sec. 35-8s-3e, fsg 6998 ft; Richard Lovenskie 1, Sec. 34-8s-3e, dr sand and shale 5816 ft; E. Mire 1, Sec. 33-8s-3e, dr sand and shale 6567 ft. Standard of Kansas Oil Co.'s Nouton 1, Sec. 34-8s-3e, dk. Woodley Pet. Co.'s Daigle 1, Sec. 34-7s-1e, dr shale 2300 ft.

BEAUREGARD PARISH — Federal Pet. Co.'s Lutcher Moore 1, Sec. 4-7s-12w, dr shale 5610 ft. F. W. Martin et al's Cochran 1, Sec. 34-4n-12w, sd 5018 ft.

CALCASIEU PARISH—Union Sulphur Co.'s Barbe Est 2, Sec. 11-9s-8w, dr shale 4087 ft.

CAMERON PARISH—The Texas Co.'s Calcasieu Lake 10-A, Sec. 1-14s-9w, dr shale 5128 ft.

JEFFERSON DAVIS PARISH—Tide Water Oil Co.'s Aimea Bourgois 1, Sec. 28-9s-5w, fsg 4100 ft. Humble Oil & Refining Co.'s Devilbiss 3, Sec. 14-9s-4w, dr sand and gravel 577 ft. Shell Petroleum Corp.'s Jarnigan 1, Sec. 12-9s-4w, dr shale 3368 ft

LA FOURCHE PARISH—Ben Coyle's La Fourche Ld. 1, Sec. 32-18s-22e, dr shale 4305 ft. R. L. Gay, Tr.'s, Gedchaux 1, T 15s- R 19e, dr sand 1710 ft.

PLAQUEMINES PARISH—E. A. Howe's Buras Levee 1, Sec. 26-21s-34w, dr shale 240 ft.

ST. LANDRY PARISH—Superior Oil Co.'s Iseringhousen 1, Sec. 35-8s-3e, dr shale 7410 ft. Marcellos Savoil 1, Sec. 27-8s-3e, standing cemented 1237 ft.

ST. MARYS PARISH — Edwards Drilling Co.'s Chetemaches 1, Sec. 34-13s-9e, building new dk, td 6500 ft, storm destroyed dk.

ST. MARTINS PARISH—The Texas Co.'s St. Martin Ld. Co. 1, Sec. 17-8s-7e, dr lime 6719 ft.

VERNON PARISH—Anderson & Kerr Drilling Co.'s Nona Mills 1, Sec. 25-2n-9w, prep to spud.

## OKLAHOMA

ALFALFA COUNTY—Acre et al's Acre 1, csw ne 14-24n-11w, (owdd), old td 5530 ft; set 6-in csg 5530 ft; Oswego 5810 ft, so&g 5910-5917 ft, swabbed 70 bbls oil at 6255 ft; td 6460 ft, co 60 ft off bottom.

ATOKA COUNTY—L. A. Fitts' Blankenship 1, ne nw 19-3s-10e, so 260-280 ft, dr 335 ft. Malernee et al's Greenville National Bank 1, nw se 36-2s-13e, set 8-in csg 1674 ft, wocs.

BECKHAM COUNTY—Price & Watchorn's Hoard 1, ne sw 17-8n-26w, rig.

CADDO COUNTY—Denver P. & R. Co.'s Noe 1, nw sw sw 34-10n-10w, dr at 10,570 ft in sandy shale.

CARTER COUNTY—Hudson and Poland's Sullivan 1, ne se 5-5s-1w, co 1640 ft. George Pace et al's M. Jack 1, ne nw nw 10-4s-4w, dr 1141 ft. McHenry et al's Ratliff 1-A, nw sw 28-1s-2w, dr 238 ft.

CLEVELAND COUNTY — Phillips Petroleum Co. et al's Community-Baker 1, cse nw 11-9n-2w, dr 4958 ft in shale (7000-ft test).

COAL COUNTY—Moore & Deaner's Edwards 1, nw ne se 27-2n-8e, sd 4970 ft. Brookshire et al's Rowland 1, nw ne ne 18-3s-10e, 1900 ft of fluid in hole at 3567 ft; to run csg.

COMANCHE COUNTY — F. F. Stevens' Green 1, se sw 2-1n-13w, co 920 ft. Heiden-Taylor's Crutcher 1, sw ne 11-1n-12w, (owdd) dr 1212 ft. Heiden-Taylor's Crutcher 2, c/ne 11-1n-12w, cemented core.

COTTON COUNTY—Ben Russell's Fowler 1, se nw 21-4s-12w, dr 3520 ft.

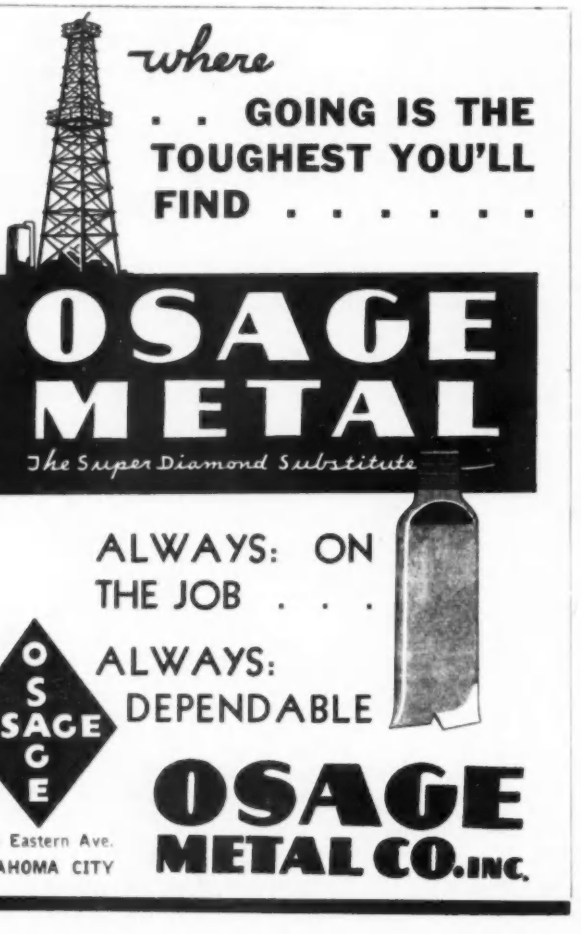
GRADY COUNTY—Travis et al's Carter 1, nw ne se 32-3n-7w, lcn.

GRANT COUNTY—W. Earl Witt et al's Patton 1, sw se 19-29n-3w, cellar and pits.

HARPER COUNTY—Sinclair Prairie's Neff 1, csw se 21-26n-24w, mir.

JOHNSTON COUNTY — Oklahoma Oil Corp.'s May Tubbi 1, sw ne se 11-2s-8e, mit (4200 ft Wilcox test).

KINGFISHER COUNTY—Jadeka Develop-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ment Co.'s Frakes 1, csw ne sw 16-15n-6w, dr 3754 ft.

KIOWA COUNTY — Bailey & Johnson's Potts 1, nw sw 31-7n-14w, sd for water.

LEFLORE COUNTY—Murdock et al's Fee 1, sw ne sw 15-5n-25e, fsg tools 2425 ft. East Oklahoma Oil & Gas Co.'s Metcalf 1, swc 2-4n-26e, co 1505 ft.

LINCOLN COUNTY—L. G. Hulse's Sloan 1, sw nw se 19-17n-3e, dr 720 ft in new hole. The Texas Co.'s Gessman 1, se ne 33-14n-4e, dr 4775 ft. Mid-Continent Petroleum Corp.'s Bolby 1, cse sw 27-12n-2e, mir.

LOGAN COUNTY—W. N. Anthony's Fruin-Eckman 1, se sw 4-16n-1e, dr 3004 ft.

McCLAI NCOUNTY—Denver P. & R. Co.'s Newborn 1, cse sw 22-5n-1e, dr 5140 ft.

MURRAY COUNTY—T. E. Revels et al's Wolfe 1, nec 18-1n-2e, dr 2340 ft with a so. Gilcrease Oil Co.'s Brown 1, swc 26-1n-2e, dr 1417 ft.

NOBLE COUNTY—The Texas Co. et al's Voss 1, sw ne se 28-22n-2w, rust; may shoot with Seismograph. Magnolia's Crawford 1, se nw 27-21n-2e, rig, mir. Continental Oil Co. et al's Bennett 1, se nw 19-20n-1w, cored 4433-4440 ft; td 5115 ft in Wilcox; set 7-in csg 5027 ft, wocs.

OKFUSKEE COUNTY—Delton Oil's Fixico 1, sec 7-11n-8e, rig.

OKLAHOMA COUNTY—Gypsy Oil Co. et al's Community-Grant 1, cse nw 27-13n-4w, dr 6301 ft. Springrose Development Co.'s Edwards 1, cse se 19-11n-1e, 400 ft drill pipe in hole, td 6540 ft in shale.

OSAGE COUNTY—Empire Oil & Refining Co.'s 1, se ne 3-25n-3e, bottom of Layton 2621 ft; to drill deeper. Peters Petroleum Co. & Norbla O&G Co.'s 1, swc 15-25n-5e, sd for water at 1610 ft. Norbla O&G Co.'s 1, nw se 31-24n-7e, set 8-in csg 1186 ft; dr 1198 ft.

PAWNEE COUNTY — George Thomas' School land 1, swc 13-20n-5e, bottom of Bartlesville 3335 ft, sg in top and water in bottom; td 3438; ur 6-in csg.

PITTSBURG COUNTY—Exchange Drilling Co.'s Chunn 1, se se nw 29-4n-14e, td 350 ft; waiting on csg.

PONTOTOC COUNTY — Riddle et al's Barnes 1, se nw se 21-5n-4e, dr 2482 ft. Boyle et al's Newbern 1, sw ne 31-5n-4e, sand 2237 ft, so; 8-in csg 2174 ft, wocs. Jarnett Pet's Johnson 1, se nw 28-4n-4e, rig. Southern Oil Corp.'s Ladd 1, cnw nw 27-3n-7e, cellar. Emanuel, Rudman & Natcher's Mayer 1, csw se nw 7-3n-8e, sd 1525 ft in Wapanucka. Dandridge et al's Stafford 1, nwc 5-1n-6e, dr 680 ft. Gillette & Kroeger's Duver 1, nw se 1-1n-7e, machine. Paul R. Robb's (owdd) Vittetoe 1, cne se 11-5s-4e, fsg drill pipe, td 4937 ft.

POTTAWATOMIE COUNTY — Stanolind O&G Co. & Amerada Petroleum Co.'s Goodman 1, sw ne ne 5-10n-4e, dr 1008 ft. Phillips-Gypsy et al's Community Flynn 1, ne nw 17-6n-3e, lcn.

SEMINOLE COUNTY—Tate & Starbuck's Heard 1-A, se nw 9-6n-7e, fsh tools. Carter Oil Co.'s Hilderbrand 1, csw se ne 1-3s-7w, lcn. Carter Oil Co.'s T. H. McCasland 1, cnw nw sw 22-1s-4w, lcn.

## KANSAS

BARTON COUNTY—Atlantic Oil Producing Co.'s Straud 1, cse nw 36-18s-11w, dr 200 ft. Harris-Haun & J. Brouk's Dietz 1, ne sw 21-16s-15w, rig. National Refining Co.'s Ingersoll 1, cnw ne 2-19s-13w, fsg 1840 ft, 10-in csg collapsed. Walter Shearan et al's Kimpler 1, se ne ne 31-18s-11w, sd 250 ft.

BUTLER COUNTY—L. C. Hay et al's Bolin 1-A, se sw se 36-26s-6e, pay 2159-2162, td 2176, pumped 8 bbls oil and 6 bbls water, used 500 gal of acid; no test.

CHAUTAQUA COUNTY—Lerke et al's Mason 1, cne ne 5-31s-10e, hfw 1564 ft, sd.

CLAY COUNTY—Seidel Bron's Younker 1, cs¼ se nw 21-9s-4e, fsg 60 ft, td.

DICKINSON COUNTY—Dutch Oil Co.'s Phillips 1, cne nw 15-15s-1e, set 10-in csg 1650 ft.

FINNEY COUNTY—National Refining Co. et al's Smith 1, cse sw 2-23s-29w, dr 1800 ft.

KINGMAN COUNTY—Kessler et al's Bollinger 1, sw nw sw 12-28s-5w, dr 4010 ft.

McPHERSON COUNTY—Continental Oil Co. et al's Graber 1, ne nw 32-21s-1w, swab 403 bbls in 24 hours, running 2½-in tubing to treat; td 3298 ft. Marileen Oil & Gas Co. & Goering Brothers' Decker 1, nw se 20-18s-1w, dr 1735 ft.

NEMAHA COUNTY—Portland & McKenna's Sudbeck 1, sw nw nw 20-1s-12e, Granite Wash 490 ft, sd.

OSBORNE COUNTY—Carmen & Hershey's Fritz 1, cne ne 9-10s-14w, sd 700 ft.

RENO COUNTY — Sinclair Prairie Oil Co.'s Shepherd 1, se nw 22-26s-9w, dr 3443 ft. L. H. Wentz's Milcalf 1, se ne sw 3-24s-7w, set 8-in csg 2747 ft. Foraker et al's Hiett 1, se sw ne 34-24s-4w, cellar. Atlantic Oil Producing Co.'s Phillips 1, ce½ nw ne 22-22s-6w, base Mississippi 3675; Hunton 3885, cored 3891-3905 ft, dr 3908 ft.

RICE COUNTY—Langston et al's Markle 1, ne ne sw 1-20s-9w, dr 2145 ft. Mid-Kansas Oil & Gas Co.'s Proffitt 3, ne nw nw 5-20s-9w, dr 1461 ft. Aylward, Trees et al's Belder 1, sw se ne 27-20s-7w, dr 3055 ft. Robertson et al's Johnson 1, nw sw 22-19s-8w, building rig. Reserve Development Co.'s Heinz 1, ne sw se 8-18s-10w, set 8-in csg 3058 ft; so 3184-3185 ft; Siliceous 3256 ft; so and water 3260-3264 ft ;td 3269 ft 500 ft wih; pb 3185 ft and sd. Continental Oil Co., Empire Oil & Refining Co. and Shell Petroleum Corp.'s Bennett 1, nw se 25-18s-8w, Simpson 3128 ft; Siliceous 3132-3135 ft; td 3172 ft, swabbed 940 bbls oil in 21 hrs, sd for pipe line.

ROOKS COUNTY—Ashby et al's Doughty 1, csw sw 15-8s-19w, ur 12-in csg 1025 ft. Phillips Petroleum Co.'s Dopita 1, csw sw 31-8s-17w, Oswald 3152 ft, td 3317 ft; used 1000 gal acid, swab 114 bbls oil and 11 bbls water in 14 hours.

SEDGWICK COUNTY—Trees Oil Co. & Derby Oil Co. et al's McMinn 1, nw sw ne 36-26s-1e, sd 1075 ft. Sovereign Oil Co.'s Nichols 1, c nw se 20-25s-1w, set 8-in csg 1953 ft.

STAFFORD COUNTY—Stanolind Oil & Gas Co.'s Denkler 1, 693 ft south & 330 ft east 10-22s-12w, dr 3115 ft.

SUMNER COUNTY—Morgan & Flynn's Mercer 1, nw ne nw 36-32s-1w, dr 2280 ft.

TREGO COUNTY—Alma Petroleum Co. et al's Rhodes Estate 1, csw sw 14-11s-23w, dr 3828 ft.

WOODSON COUNTY—Sheedy et al's Hassenpfling 1, nw ne 34-25s-14e, fsg 535 ft.

## MICHIGAN

MIDLAND COUNTY — McClanahan Oil Co.'s Oliver 1, Porter twp., Sec. 23, dr 700 ft; Converse 1, Greendale twp., Sec. 28, dr 2100 ft. L. G. Thompson's Shirts 1, Greendale twp., Sec. 17, dr 1800 ft. Geo. Hanner's Hoyt 1, Jasper twp., Sec. 24, fsg 1150 ft. Jasmid Oil Co.'s Pietscher 1, Jasper twp., Sec. 28, dr 3400 ft. Greendale-Lee Oil Development's Hitsman 1, Lee twp., Sec. 13, sd 2550 ft. Melvin and Brehm's Whitaker 1, Geneva twp., Sec. 19, dr 3600 ft. Sun Oil Co.'s Vallender 1, Lincoln twp., sw ne Sec. 11, spd.

ISABELLA COUNTY — W. J. Bernier's Duncan 1, Vernon twp., Sec. 9, fsg 3250 ft. Chartiers Oil Co.'s Willey 1, Vernon twp., Sec. 29, csg 1329 ft, ready to test gas sand. McClanahan Oil Co.'s Wonsey 1, Denver twp., Sec. 33, lcn; Hicks 1, Denver twp., Sec. 27, dr 2400 ft; Demski 1, Denver twp., Sec. 27, spd; Sweeney 1, Denver twp., Sec. 33, rog. Jake Henninger's Weber 1, Nottawa twp., nw nw nw Sec. 22, lcn.

OGEMAW COUNTY—McClanahan Oil Co.'s Guliford 1, West Branch twp., Sec. 29, ow pb from 3755 to 2750 ft; Boutell 1, Ogemaw twp., Sec. 5, fsg 770 ft. C. A. Perry's Wobig Heirs 1, Mills twp., Sec. 6, fsg 1760 ft. W. C. Mee's Gibb 1, Mills twp., Sec. 30, dr 400 ft.

MECOSTA COUNTY—Taggart Bros.' McKeough 7, Austin twp., Sec. 2, rur. Hall La Mee Syndicate's Oliver 1, Martiny twp., Sec. 13, lcn. Bryan & Martin's Sheets 1, Millbrook twp., Sec. 35, dr 250 ft. Columbia Oil & Gas Co.'s Hutchinson 1, Hinton twp., Sec. 14 (c-sw sw), spd.

MONTCALM COUNTY—Daily Crude Oil Co.'s Christensen 3, Home twp., Sec. 3, dr 850 ft; Blair 1, Ferris twp., Sec. 11, dr 2845 ft; Gustavson 1, Home twp., se n wsw, Sec. 2, br. Theodore Oil Co.'s Sherwin 1, Home twp., Sec. 13, sr 900 ft. Old Dutch Oil Co.'s Fargar 1, Belvadire twp., Sec. 11, wort. Pure Oil Co.'s Hansen 1, Home twp., Sec. 10, dr 1900 ft. Rex Oil and Gas Co.'s Johnson 1, Home twp., Sec. 17, dr 1600 ft; Albaugh 1, Home twp., Sec. 34, drv p 350 ft. Walter & Miller's Durbin 1, Crystall twp., Sec. 11, br. W. J. Wilson's Robinson 1, Richland twp., Sec. 27, sd 450 ft; McGilvery 1, Richland twp., Sec. 34, drv p 400 ft. Tope-Blunt-Voorhee's Neff Ranch 1, Day twp., Sec. 22, br. Atha Oil Co.'s Davenport 1, Ferris twp., Sec. 16, br. Robins-Gordon-Ide's Stephens 1, Home twp., Sec. 36, lcn.

LaPEER COUNTY—Flynn Oil & Gas Co.'s Brancik 2, Oregon twp., Sec. 9, dr 1375 ft. Fred W. Craft's Gerwolds 1, Oregon twp., ne nw ne, Sec. 9, br. Gordon Oil Co.'s Smith 1, Arcada twp., Sec. 4, mim.

SAGINAW COUNTY—Chapin Oil Co.'s Sutlif 1, Chapin twp., Sec. 16, dr 900 ft. Crabon Oil Co.'s Berg 1, Birch Run twp., Sec. 26, dr 2200 ft. Brant and Marion's Ward 1, Marion twp., Sec. 12, dr 1150 ft.

### MISCELLANEOUS

CLARE COUNTY — McClanahan Oil Co.'s Frackelton 1, Lincoln twp., Sec. 18, dr 1325 ft

GRATIOT COUNTY—Mid State Dev.'s Yost 1, Bethany twp., Sec. 27, dr 800 ft.

IONIA COUNTY—J. L. Strachen's Moss 1, North Plain twp., Sec. 19, sd 3000 ft, testing so&g in Dundee, may plug back, showing bottom hole water.

EATON COUNTY—W. J. Bernier's Woodruth 1, Benton twp., Sec. 5, sd 3083 ft.

GENESSEE COUNTY — Power Oil Co.'s Begole 1, Flint twp., Sec. 31, pulling 6-inch, bottom hole 2375 ft, may abandon.

HILLSDALE COUNTY—B. D. Chandler's Brickener 1, Wright twp., Sec. 11, sd 1000 ft; Charles Anderson's Cousens 1, Jefferson twp., Sec. 14 dr 400 ft.

## COLORADO

GRAND COUNTY—Colorado Oil Refining Co.'s Linke 1, ne sw sw 13-1n-77w, spd in Pierre shale 200 ft.

HUERFANO COUNTY—S. W. Pressey et al's test No. 1, 4-29n-69w, spd 125 ft. S. W. Pressey et al's test No. 21, 3-29n-69w, sd.

LA PLATA COUNTY—McGarr Petroleum Co.'s Pinon Mesa 1, se ne 34-33n-12w, lcn.

LARIMER COUNTY—Eastman & Deininger's test No. 1, ne se nw 30-5n-69w, sd 520 ft.

PARK COUNTY—South Park Oil & Gas Co.'s State 1, se se sw 16-11s-75w, digging cellar.

PROWERS COUNTY—Trojan Oil & Gas Co.'s Lotus 1, nw ne ne 15-23-46, dr in limestone 3125 ft.

ROUTT COUNTY—Mid-Colorado Petroleum Corporation's Omholt 1, se 29-4n-87w, sd 2565 ft. The Texas Co.'s Sampson 1, se ne se 2-1s-85, King Mountain, br and digging pits.

## NEW MEXICO

EDDY COUNTY — Ralph Spearow et al's McClelland 1, sw nw ne 22-22s-23e, Indian Creek structure, dr out plug 4098 ft.

SAN JUAN COUNTY — A. R. Goodale's Hare 1, nw nw 23-29n-11w, sand below 880 ft, dry and may be abd. Nick Spatter's test No. 1, ne sw 32-31-11, spd.

SAN MIGUEL COUNTY—Cabra Springs Oil & Gas Co.'s test No. 1, ne se 22-12n-32e, dr lime 3200 ft.

## WYOMING

CARBON COUNTY—Earl W. Reader, Inc.'s Union Pacific 1, c sw sw 19-20n-89w, dr 4762 ft.

CONVERSE COUNTY—Poison Lake Syndicate's Government 1, s ne sw 17-32n-71w, dr 200 ft. John Ackard's Daniels 1, sw sw 17-32n-71w, pulling csg 350 ft.

FREMONT COUNTY—Monongahela Oil Co. and S. H. Keoughan's Wisda 1, ne se ne 13-28n-93w, dr 1350 ft.

HOT SPRINGS COUNTY—California Exploration Co.'s Government 1, ne se ne 12-44n-97w, dr 1350 ft.

## MONTANA

CARBON COUNTY—Minnesota Flatwillow Petroleum Co.'s Corbett 1, se sw se 1-6s-23e, dr 1270 ft.

GLACIER COUNTY—Burmac Oil Co.'s Bruning 1, csw sw 1-31n-5w, 5 miles south of nearest Cut Bank production, lcn. Producers Development Syndicate's Helgason 1, nw nw 29-32n-4w, sd 2679 ft.

JUDITH BASIN COUNTY—Fletcher E. Hunt's Hobson 2, ne sw se 20-14n-15e, dr 565 ft.

PONDERA COUNTY — California Co.'s Northwest Properties 1, sw ne se 20-28n-4w, dr 1020 ft.

TETON COUNTY—E. K. Cheadle, Jr., et al's Balsinger 1, ne se nw 20-27n-5w, dr 1120 ft.

## CALIFORNIA

### KERN COUNTY

BUENA VISTA LAKE—Ohio Oil Co.'s K. C. L. 31-1, 31-31-26, pb to 5612 ft from 7957 ft, perforated 11¾-in csg 4210-4175 ft for test.

BUENA VISTA HILLS—E. C. Arnold's No. 1, 34-31-24, rig.

COMANCHE POINT—Comanche Oil Co.'s No. 1, 15-32-29, dr shale 3442 ft. Tejon Ridge Oil Co.'s No. 1 (was Metropolitan Dev. Co.), 23-32-29, rur.

DEVILS DEN—Richfield Oil Co.'s Alferitz 1, 14-25-10, pb 1600 from 3206 ft, pumping 120 bbls 19.1 gravity oil, cut 20 percent.

EDISON DISTRICT—Elyod Pet. Corp.'s No. 1, 19-30-30, dr out cement, to test, 1900 ft. Mitchell-MacMillan Co.'s No. 1, 8-30-29, lcn. Mountain View Dev. Corp.'s Spangler 1, 12-30-28, coring below 3890 ft.

McKITTRICK—Shell Oil Co.'s Midway-Premier 1, 21-29-21, tested at 4760 ft, showed oily water, coring 4810 ft. Standard Oil Co.'s No. 45, 15-30-22, cemented 9-in csg 2895 ft, oil sand 2900-2932 ft, bottom. Welport Oil Co.'s No. 1, 26-29-21, cemented 10¾-in pipe 980 ft, td 1195 ft, well blew out; running tubing for test.

MT. POSO—Associated Oil Co.'s Fortine 1, 30-27-28, bldg rig. Ohio Oil Co.'s Van Houten 1, 20-27-27, foundation.

NORTH MIDWAY—Midway Peak Oil Co.'s No. 1, 3-32-22, spd.

NO. SEMITROPIC—S. T. Alexander's Shields 1, 29-25-21, sd 1426 ft.

PIONEER ANTICLINE—Fisher & Welton's Harris 1, 35-11-23, dr shale 785 ft.

TEMBLOR HILLS—Robt. Foster's No. 1, 2-32-22, r, td 573 ft.

WHEELER RIDGE — Badger Oil Co.'s El Tejon 1, 31-1-19, sd 6001 ft.

### KINGS COUNTY

AVENAL—Carl Weller's Baby King 2, 11-23-16, sd 892 ft.

TULARE LAKE DISTRICT—Armadillo Gas Co.'s No. 1, 32-22-20, td 1745 ft, cemented 6¼-in csg 1516 ft, to test. Commonwealth Cons. Gas Co.'s No. 1, 21-22-20, repairing equipment 1581 ft. Tulare Basin Gas Co.'s No. 2, 2-23-19, cemented 4¾-in csg 1190 ft, td 1208 ft.

### MADERA COUNTY

DOS PALOS—Pure Oil Co.'s Chowchilla 1, 7-10-14, dr sand & shale 3910 ft.

### SAN JOAQUIN COUNTY

TRACY—Milham Exploration Co.'s Connolly 1, 5-4-5, dr sand and shale, sd 5204 ft.

### SANTA BARBARA COUNTY

GOLETA—Shell Oil Co.'s Bishop 1, 20-4-28, rig. Hastain Stone's Simonds-Campbell 1, 9-4-28, sd 2785 ft.

LOMPOC—Lompoc Pet. Co.'s Beauterbaugh 2, 18-7-34, dr shale 2660 ft.

NAPLES—W. D. Deuel's No. 1, 7-4-29, td 5134 ft, rur.

SANTA MARIA—Union Oil Co.'s Moretti 1, 24-10-34, dr shale 1570 ft.

### SAN LUIS OBISPO COUNTY

CHOLAME—Willett Oil Assn.'s Jack 2, 10-25-15, wocs 19-in csg 774 ft.


Out of the hole

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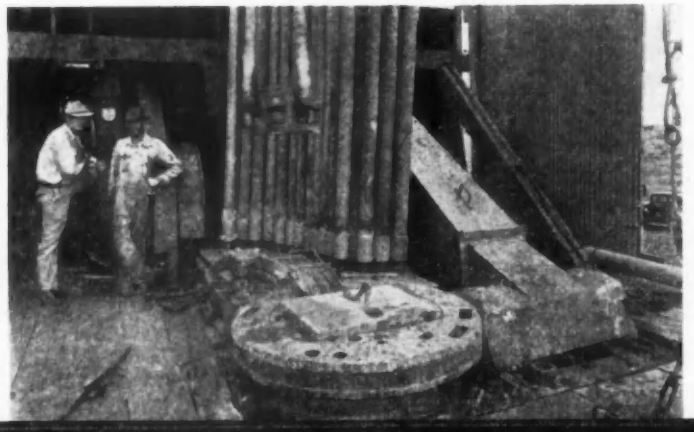

JUST ABOVE THE SAND AT GRETA


### VENTURA COUNTY

BARDSDALE—H. H. Humphries' No. 1, 18-3-19, sd 275 ft.

CONEJO—American Oil Co.'s Powell 1, 33-2-20, sd 3060 ft, plan to test.

FILLMORE—Laing & Jacob's Snodgrass 1, 32-4-19, pumping water 700 ft.

HOPPER CANYON—Hancock Oil Co.'s Hadley 5, 13-4-19, sd 3357 ft. Oil Ridge Oil Co.'s Moran 3, 1-4-19, dr black shale 970 ft.

LOS POSAS—Los Posas Pet. Co.'s Mahan 1, 22-3-20, dr greenish shale 6912 ft.

OJAI—Garner Royalties Co.'s No. 1, 12-4-20, pumping 20 bbls 16 gravity oil, 1543 ft.

PIRU—Piru Oil Co.'s Holser 1, 14-4-18, to run 12½-in csg, td 130 ft.

RINCON—Woodrow Pet. Corp.'s Woodrow 1, 4-3-24, sd 7615 ft.

SANTA PAULA—J. W. Mosher's No. 1, 22-4-21, dr brown shale streaks oil sand, 2085 ft.

SESPE—H. A. Ivers' No. 11, 1-4-20, r 900 ft. Merchants Pet. Co.'s Cochran 4, 1-4-20, redr 560 ft, td 1280 ft. Topa Topa Oil Co.'s No. 1, 33-5-19, sd 3100 ft.

SIMI—American Drilling Co.'s No. 1, 6-2-17, dr shale 310 ft. Henry R. Dabney's No. G-1, 20-2-18, sd 1506 ft. Pomoc Oil Co.'s No. 1, 8-2-17, dr shale, oil stained 515 ft. Williamson & Danaker's No. 1, 36-3-18, bailing, open hole, 1010 ft.

SOUTH MOUNTAIN—Wm. C. Kirk's No. 5, 21-4-22, dr sandy shale, 1790 ft.

### MISCELLANEOUS

FRESNO COUNTY—Western Gulf Oil Co.'s S.P.L. 1, 15-17-15, cemented 6⅝-in csg 8510 ft, td 8868 ft; to test Eocene showings. The Texas Co.'s Sec. one 1, 35-20-14, grading lcn; abn lcn in 1-21-24. Milham Exploration Co.'s Harmon 1, 18-16-14, grading lcn. Bergman Oil Co.'s Oro Loma 1, 12-12-11, repairing equipment 6018 ft.

MONTEREY COUNTY—Jas. M. Douglas' No. 1, 36-22-9, dr black shale 3890 ft.

SUTTER COUNTY—Buttes Oilfields' No. 2, 35-16-1, sd 4320 ft.

YOLO COUNTY—Pacific Northern Gas & Oil Co.'s Guinda 1, 23-12-3, sd 6770 ft.

### SOUTHERN CALIFORNIA

ARTESIA AREA—Vanco Dev. Co.'s Millard 1, rig.

ATHENS DISTRICT—Woodward Oil Co.'s No. 1, 12-3-14, dr shale 723 ft.

ATWOOD DISTRICT—Midrich Drilling Co.'s Vejar 1, 26-3-9, dr shale 1390 ft.

BREA CANYON — Pressel - Perry - Tull's Baird 1, 30-2-9 (was El Dorado Oil Co.), installing new boilers, td 2850 ft.

CARBON CANYON—Tehama Pet. Corp.'s Kramer 1, 33-2-8, made 5 bbls, pulled liner to deepen, td 1297 ft.

FAIRVIEW DISTRICT—Explorers Drilling Co.'s Norris 1, 9-6-10, sd 892 ft. Speiks Oil Co.'s Derby 1, 9-6-10, sd 1055 ft.

FULLERTON—Union Oil Co.'s Fullerton Heights 1, 22-3-10, dr brown shale 2120 ft.

HUNTINGTON BEACH, on tidelands—Black Eagle Oil Co.'s No. 1-B, permit 194, pb 1500 ft to redrill, td 3987 ft.

NEWHALL—B. & L. Drilling Co.'s B & L 1, 14-3-16, sd after spud.

NEWPORT—Piatt & Collins' Newport 1, 14-6-10, lcn. Pioneer Drilling Co.'s Banning 3, 29-6-10, co to rerun tubing and swab, td 6452 ft.

NO. LONG BEACH—Geo. L. Clayton's Co-operative 1, 31-3-12, sd 6550 ft.

PICO—Frontier Oil Co.'s No. 1, 12-2-12, wocs, td 1460 ft.

PLACENTIA—Placentia Dev. Co.'s Verde 1, 35-3-9, td 4250 ft, redrilled to 3040 ft and sd.

SAN FERNANDO—W. L. Alexander's No. 1, 7-2-14, sd 1300 ft.

SAUGUS—International Oil Dev. Co.'s Powell 1, 34-5-16, dr shale 1719 ft.

WEST WHITTIER—Midfield Oil Co.'s Walker 1, 19-2-11, resumed dr 4823 ft in hard shell.

SAN DIEGO COUNTY—San Diego Gas & Pet. Corp.'s No. 1, 32-18-2, dr hard shale 3960 ft.

SAN BERNARDINO COUNTY — Great American Pet. Co.'s Gapco B-1, 18-2-8, co 3100 ft.; Gapco A-1, sd 2725 ft.

# Squeaks *from the* BULL WHEEL

With bowed shoulders Homer Smith entered his house. His dragging feet scuffed their way throught the front hall and into the kitchen where his wife was preparing the evening meal.

The smile faded from Mrs. Smith's face as she noted the woebegone appearance of her better half.

"Homer," she cried.

Slumping into a chair, Homer Smith stared straight ahead with dead eyes.

"Tell me, darling," pleaded his wife.

She came over to Homer and lifted his chin in her hand. Homer moistened his lips with his tongue.

"The worst," he said dismally, "has happened."

"No!" cried Mrs. Smith aghast.

"Yes," said Homer. "This afternoon just before quitting time the boss called me in and gave me the business."

---

"And now," said the teacher, "will someone please give us a sentence using the word 'candor.'"

"Please-m," said the bright little boy in the front seat, "my papa had a pretty stenographer, but after ma saw her he candor."

---

"Lips that touch liquor shall never touch mine."

"Your lips?"

"No, my liquor."

---

"She sings, plays the cello, is a champion swimmer, and paints beautifully."

"Well, if old George can cook a bit, they ought to get on very well together."

Officer (watching Tommy shaving in trench)—Get on with your shave; don't let me interrupt.

Tommy—All right, sir; but would you mind standing out of my shaving water?

---

Cuttem, the barber, was talking of a man who had just joined his shave and haircut club at so much a week. "That chap McMean has a marvelous growth—comes in twice a day for a shave, and every few days for a haircut."

Cuttem went up in the air when the other informed him, "Why, there are two McMeans—Angus and Donald—and they are twins."

---

"Which platform for the New York train?"

"Turn to the left and you'll be right."

"Don't be impertinent, my man."

"All right, then, turn to your right and you'll be left."

---

"Your methods of cultivation are hopelessly out of date," said the youthful agricultural college graduate to the old farmer. "Why I'd be astonished if you got even ten pounds of apples from that tree."

"So would I," replied the farmer, "It's a pear tree."

---

Jones had occasion to reprimand his wife. "I think, dear," he said soothingly, "that you fib a little occasionally."

She immediately became indignant.

"Well, I think it's a wife's duty."

"Wife's duty?"

"Yes; to speak well of her husband occasionally."

"I saw Mary kissing the milkman this morning."

"Good heavens! Wasting time on him when we owe the grocer $50."

---

"Do you know how to tell a professor from a student?"

"Oh, all right, have your own way and tell it."

"Ask him what 'it' is, and if he says it's a pronoun he's a professor."

---

The passenger was taking his first ocean voyage, and he was most miserable.

"Oh, steward," he called, "how far are we off land?"

"Mile and a half, sir," replied the steward.

"Thank heaven. In what direction, steward?"

"Straight down."

---

A woman walked into a shoe store for a pair of shoes. The salesman seated her and after taking her size said:

"One of your feet is so much larger than the other."

She left in a huff, and walked into another shoe store. The second salesman said:

"How much smaller your one foot is than the other."

She bought two pair of shoes.

*Hey! Ain't there some other way to find a salt dome?*

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Youngstown Sheet and Tube Co. Insert, 18-19

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## WORTH IT *for this advantage alone!*

*How to seize*

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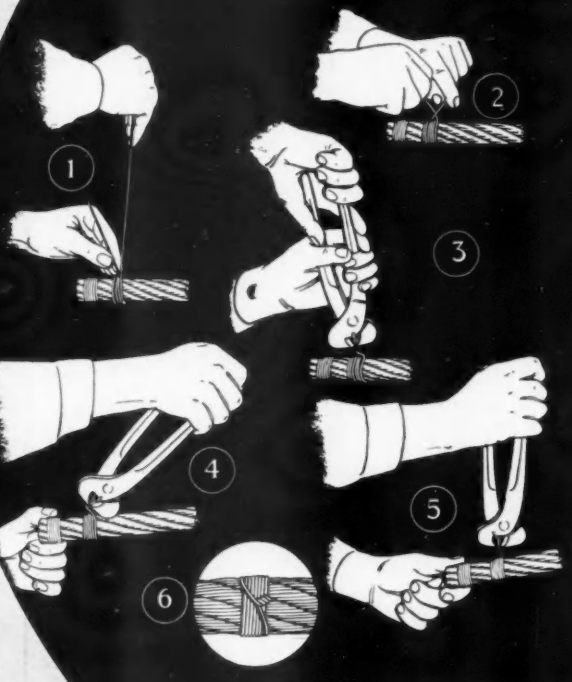


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NO SEIZING REQUIRED

*furthermore* by preforming the wires and strands of LAY-SET Rotary Lines in manufacture, destructive internal stresses are eliminated. Wires and strands in LAY-SET lie naturally in the body of the rope, relaxed always, to give full rope efficiency and balanced tension on strands. LAY-SET Preformed Rotary Lines, because of their preformed construction, resist cross winding, loose winding on drum, whipping, excess vibration, undue wear on drums and sheaves, and kinking. Back twisting is not necessary with LAY-SET Lines and they are faster. Write today for descriptive literature and complete information to

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**HAZARD LAY-SET PREFORMED ROTARY LINES**

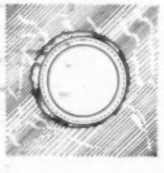
# A NEW TECHNIQUE IN DRILLING

## HOW IT SOLVES THE "TIGHT HOLE" PROBLEM

**When a tight hole makes the success of a cementing job questionable, use the Baker Wall Scraper to enlarge the diameter any desired distance above the cementing point. You will then have sufficient clearance for the cement to flow all around the shoe and shoe joint, and as far up the casing as you consider necessary to permanently cement the casing.**

**The Baker Wall Scraper removes all plastered mud and weight materials from the walls of the hole, and the cement bonds better with the original formation to secure a positive, permanent water shut-off.**

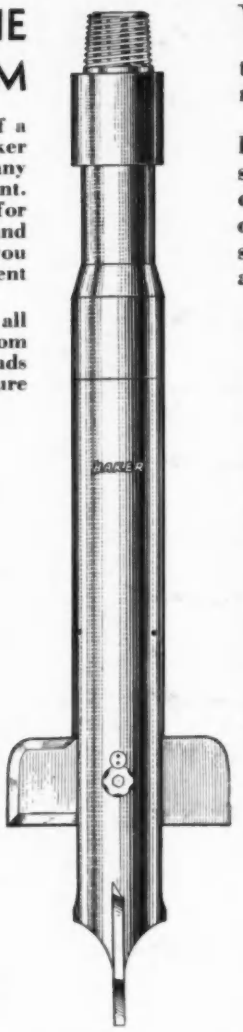
Here's The PROBLEM



*Casing contacts formation and prevents proper distribution of cement —results are questionable.*

Here's The ANSWER

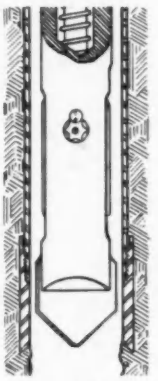
*Casing centered in hole which has been enlarged with Baker Wall Scraper — good cementing assured.*



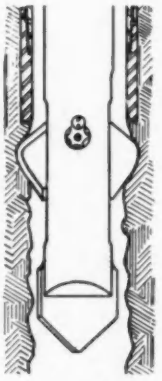

***Always Safe to Use — All Ways!***

**WHEN you run a Baker Wall Scraper down the hole, you are ready safely to perform operations never before possible—a new drilling technique is yours.**

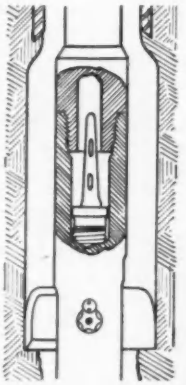
**You can bring in the well easier—you can enlarge the hole to run larger liners—you can straighten crooked holes—you can drill out the cement from a previous unsuccessful job—you can scrape clean and increase the area of the oil sand—and you can do all these things economically, rapidly and with complete safety.**



*Blades are held by a spring, safely enclosed inside the body while running in the hole.*



*Blades are being expanded by hydraulic pressure while W.S. is rotating, without lowering, until blades cut into formation to their maximum expansion.*



*Blades are enlarging the hole to any desired ¼" diameter up to twice the O.D. of the Wall Scraper body.*

## IT HAS UNEQUALLED EXPANSION

The strong alloy steel blades expand to cut a larger diameter than is possible with any underreamer. For example, the No. 6 Baker Wall Scraper, which runs-in through 9⅝" casing will enlarge the hole to a 19" diameter; the No. 3 Wall Scraper runs-in through 7" casing and cuts to a diameter of 11".

## IT HAS PLENTY OF CLEARANCE

You need never be concerned about clearance with a Baker Wall Scraper. The No. 3 Wall Scraper has a maximum body O.D. of 4½" designed to run through 6⅝" casing; the No. 6 size is 7¾" O.D. and safely runs through 9⅝" casing.

## IT COMES SAFELY OUT OF THE HOLE

When the "scraping" operation is completed, and you start out of the hole, the blades *close downward* into the body and are held in this enclosed position by a spring. Even if a rock, or a piece of metal might wedge to prevent a blade from closing, the shearing action which results when the top of the blade strikes against the casing shoe, either dislodges or cuts through any obstruction and the blades collapse inside the body of the Wall Scraper.

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# BAKER ROTARY WALL SCRAPER